

# American Aviation

The Independent  
Voice of  
American Aeronautics

15c A Copy

Vol. 3. No. 9.

Published Twice a Month

October 1, 1939

\$3.00 a Year

## Fortnightly Review

### N. A. A. Challenged

**T**HIS nation is marshalling all resources in a preparedness emergency. The aviation industry, its executives and workers by a great majority, want to do the things a far-flung enlightened Democracy wants to have done. Manufacturers of airplanes, operators of airlines, non-scheduled commercial flyers, airway aid producers, etc., etc., are asking that the public express itself so that plans may conform to the trend of public thinking and public demand.

No such opportunity and no more serious challenge ever confronted the National Aeronautic Association.

If N. A. A. fails to produce constructive leadership in this crisis; if N. A. A. with its chapters in every state cannot demonstrate that it is a communication channel through which constructive public sentiment may be voiced; if N. A. A. fails to show courage and confidence in its right to participate in national planning for all civil aviation; then rough days are ahead for some individuals who have betrayed the thousands of honest, dues paying N. A. A. members throughout the United States.

The sad luck of potency in N. A. A. during recent years cannot be blamed upon President Charles F. Horner. If and when this publication begins shooting at the trouble makers, our aim is back of Horner and it is entirely possible that our tracer word-bullets may do considerable damage to some members of the N. A. A. supreme command, as well as the enterprises they represent.

There are rumors of a change on the N. A. A. staff. If that change is an honest effort to make

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## European Scrap Opening Way for U. S. Aviation Expansion

### ORDERS RUSHED FOR TRANSPORTS American Leads With Contract for 20 DC-3's; More Expected to Buy Soon

In a rush to get orders in for transport planes before manufacturers are loaded down with military orders as a result of war threats, U. S. airlines in the last two weeks have entered into contracts for 27 ships amounting to approximately \$3,360,000. Other lines are intending to order additional transports soon, it is known, and some orders already made have not been publicly announced. Four lines early in September bought 13 transports at a cost of about \$1,460,000 (AMERICAN AVIATION, Sept. 15.)

Biggest of current orders is American Airlines' for 20 new Douglas DC-3's at a cost of more than \$2,400,000 (unit price of \$120,000). Order, announced by C. R. Smith, AA president, calls for delivery of the new Flagships beginning early in 1940. Some of the planes will be used to replace DC-2's and others to provide additional schedules on other routes.

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### Buys Equipment



C. R. Smith

President of American Airlines who has just ordered 20 more Douglas DC-3 transports at a cost of about \$2,400,000.

### Instrument Landing Set-Back Seen as President Seeks Standardization

Government officials and airlines are alike pondering the latest incident in the development of instrument landing systems and fear a delay of anywhere from six months to four years in actual installation of systems for air transport use. President Roosevelt has very unexpectedly asked the National Academy of Sciences in Washington to study all existing instrument landing systems and recommend one standard system which will be used by both military and civil aircraft throughout the country.

While admitting the need for standard equipment which could be used by all types of aircraft, some officials believe the installation of equipment may be retarded very substantially because the Academy, without testing facilities, and without having followed the developments closely, may require much time to come to a decision. As this issue went to press the Academy had not replied to the President's request of several weeks ago. It is understood

that the Army Air Corps requested the President to have an impartial body make a decision.

The action comes just at the time the CAA was drawing up specifications preparatory to asking for bids on 10 instrument landing systems to be installed at locations selected by the Radio Technical Committee for Aeronautics. The specifications are to be completed in another two or three weeks but what steps will be taken beyond that are not known.

The President has asked the Navy, the Army and the CAA to cooperate with the Academy and to report to it on all instrument landing developments. The President stated that he wanted a standard system for purposes of economy, efficiency and national defense and pointed out that if the Air Corps has one system and the commercial airports another system the systems would require separate equipment. He feels that military ships should be able to

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### Govt. Agencies Eye South America; Big Airport Plan Likely

**E**UROPE'S war is having many and varied effects upon American aviation.

As events moved swiftly abroad, so did aviation activities in this country quicken markedly along numerous lines.

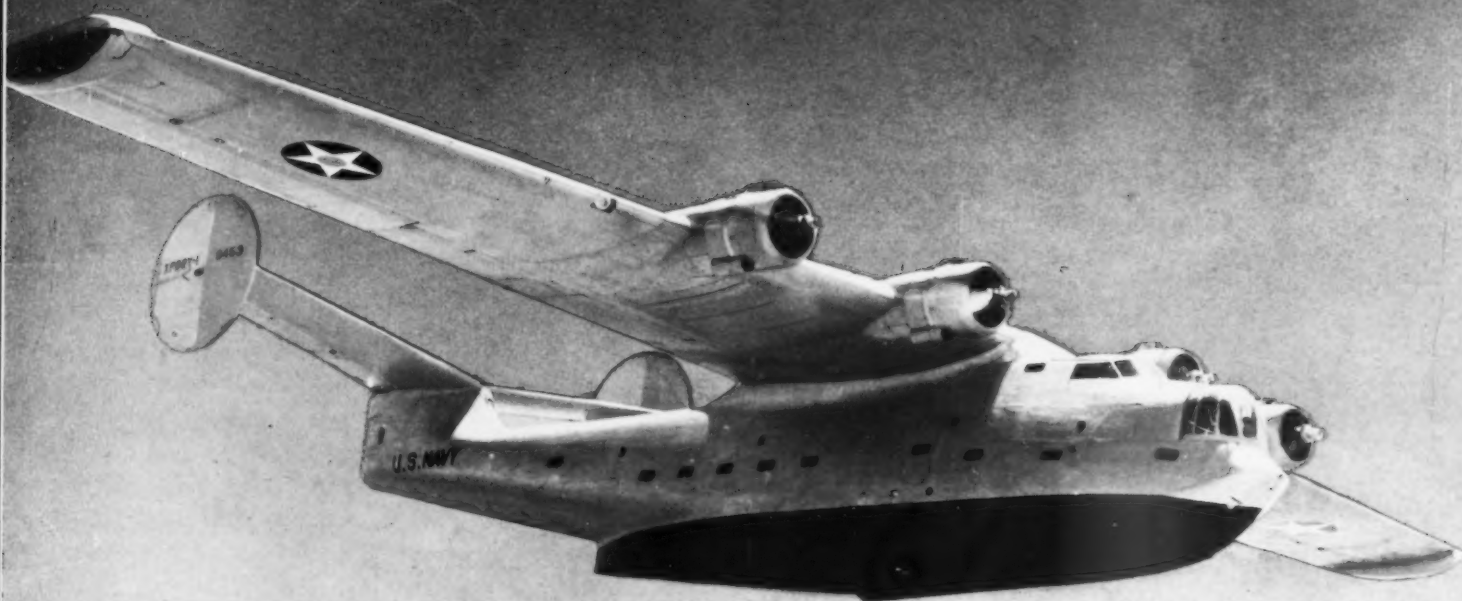
With the single exception of the outlook for new airline routes, expansion of all phases of aviation seems assured. Here are brief summaries of developments:

**South America:** Expansion of U. S. aeronautical influence may be expected. All government agencies pertaining to aviation see the present as an opportunity to regain what U. S. aviation has lost in the past few years to European countries. The Post Office may be expected to advocate expansion of U. S.-operated air mail routes. The Civil Aeronautics Authority is taking much interest in civil aeronautical development in all Latin American countries. The Aeronautical Chamber of Commerce through its export department is working toward establishment of profitable trade relations with all South American countries, seeing a large future there for a market for commercial and civil aircraft.

**Neutrality:** A long hard fight is forecast for revision of Neutrality Act to permit export of military aircraft to belligerents. Meantime all exports are held up except those parts (including engine parts) which can be shipped out under existing law. Manufacturers with aircraft orders from Great Britain and France are completing orders on instructions from purchasers and storing planes to await eventualities. Movement against repeal of embargo grows. Among those against repeal is World War ace Capt. Eddie Rickenbacker, president of Eastern Air Lines, who spoke on the radio Sept. 26.

**Pilot Training:** The Civil Aeronautics Authority's civil pilot training program in 300 schools gets underway with added significance. Army Air Corps is taking keen interest in program and because of war situation advanced student training will be given more prominence next spring and following year. Air Corps sees

(Turn to page 8, col. 4)



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## Clearance Documents Discussed by Dept. of Commerce, Airlines

A conference concerning certain clearance documents was held Sept. 20 in Washington by the Dept. of Commerce's Bureau of Marine Inspection and Navigation and the various airlines which operate internationally.

The Bureau told the companies represented (Pan American, Boston-Maine, Canadian Colonial and United) that it wishes to apply the same clearance requirements to aircraft as apply to other vessels. Briefly, the situation is as follows: In peace-time, a shipper may post a bond and then declare his goods after the boat has sailed. However, a recent amendment to the regulations governing vessels states that: "Provided, however, that during any period covered by a proclamation of the President that a state of war exists between foreign nations, no vessel shall be cleared for a foreign port until all shippers' export declarations covering cargo laden thereon have been filed with the collector." It is desired that this section be made applicable to aircraft, and it is understood that the airlines are in substantial agreement.

The government also intends to watch closely any possibility of the transfer of goods in mid-ocean.

### Colyer Succeeds Johnson

D. B. Colyer, former chief technical adviser for Trans-Canada Air Lines, on Sept. 1 assumed the duties of vice-president in charge of operations performed by Philip G. Johnson who, on Sept. 9, was elected president of Boeing Airplane Co., Seattle. Colyer's headquarters are at Montreal.

### WNAA Award to Cochran

Jacqueline Cochran recently was presented the trophy of the Women's National Aeronautic Association as the outstanding woman pilot of the year. Winner of the award for the second year, Miss Cochran received the trophy at her home in New York from Mrs. Mark P. Beam, Albuquerque, N. M., WNAA president. The prize was given for outstanding work in cross-country flying and record setting.

### PAA Changes Effectuated

C. V. Whitney, executive officer of Pan American Airways Corp., has effected a number of changes in the organization recently. Juan T. Trippe, president, is now in direct charge of Pacific & Atlantic divisions, while George L. Rihl, vice-president, is in exclusive charge of all PAA operations in the Caribbean, Central and South America. John C. Cooper, Jr., vice-president, who has been assistant to the president, is now assigned to Mr. Whitney's office as assistant to the executive officer. It was said that Mr. Whitney will handle relations with federal government agencies in Washington.

### Mayor La Guardia to Get Frank M. Hawks Memorial

The Frank M. Hawks Memorial, annual award made by Air Service Post 501 American Legion, New York, "for distinguished service to American aviation," will be presented this year to Mayor F. H. La Guardia at a dinner to be held Oct. 3. Col. Harold Fowler, commander of the post, will make the presentation.

Won last year by Bernarr Macfadden, the award is named in honor of the memory of the post's late vice commander. Mayor La Guardia was named by a jury of flyers for efforts in bringing to U. S. and NY "the world's greatest airport" at North Beach.

## Calendar

- Oct. 5-7—SAE National Aircraft Production Meeting, Biltmore Hotel, Los Angeles.
- Oct. 7-8—Dedication of Reading (Pa.) Municipal Airport.
- Oct. 8—Rededication of Nashville (Tenn.) Municipal Airport in honor of Col. Harry Berry.
- Oct. 9-11—Annual Air Reserve Conference, Mitchel Field, L. I., N. Y.
- Oct. 11-13—Lillenthal Association for Aviation Research, Annual Meeting, Vienna, Austria.
- Oct. 12-14—NASAO Annual Convention, Hotel Roosevelt, New Orleans.
- Oct. 16-20—National Safety Congress and Exposition, Atlantic City.
- Oct. 26-27—SAE Transportation & Maintenance Meeting, Coronada Hotel, St. Louis.
- Nov. 3-7—Annual Convention, Aeronautical Medical Association, Hollywood-by-the-Sea, Fla.
- Nov. 4—N. Y. & N. J. 99's Dinner Dance, Waldorf-Astoria Hotel, New York.
- Dec. 1-3—Louisiana's 2nd Annual Aircraft Industries Exhibit, Municipal Airport, New Orleans.
- Dec. 7-8—Kansas State Aviation Association, Annual Meeting, Wichita.
- Dec. 16—I. Ae. S. Wright Brothers Lecture, New York.
- Dec. 27-Jan. 2—AAAS Winter Meeting, Columbus, O.
- Jan. 5-7—All-American Air Maneuvers, Miami.
- Jan. 10-12—NAA's Winter Meeting, New Orleans.
- Apr. 26-28—Air Congress of America, Southwest Division, Tulsa.

### WNAA PICKS SAN DIEGO

Governors for State Associations Confirmed at Albuquerque Where Group Will Meet in '41

San Diego, Cal., will be the site of the 1940 convention of the Women's National Aeronautic Association, it was decided recently in Albuquerque, N. M., at a meeting of the association's board of directors. Mrs. Mark P. Beam, president, presided at the meeting. Albuquerque will entertain the WNAA in 1941.

Appointments of governors for state associations confirmed by the board were: New Mexico—Mrs. C. C. Meacham, Albuquerque; Minnesota—Mrs. Robert L. MacPhail, Minneapolis; Oregon—Mrs. Dick H. Derr, Portland; Missouri—Miss Marion Newell, Kansas City; west Oklahoma—Mrs. Clyde Nuckols, Oklahoma City; west Texas—Mrs. Robert Schermerhorn, Big Springs; Illinois—Mrs. J. L. Hassett, Casey; New Jersey—Mrs. Albert Reynolds, East Orange; Indiana—Marjorie Van Stahler, South Bend; southern California—Mrs. Ethel Sheehy, Fontana; northern California—Mrs. James Morris, Sacramento.

### Reading Ready

Dedication of the Reading (Pa.) Municipal Airport has been set for Oct. 7-8, and the contract for operation of the hangar and repair shop has been granted to Richard C. Estler, of Whander Field.

### Taxi Strip's Anniversary

Taxi-Strip, aviation monthly magazine edited and published in Oklahoma City, Okla., by Keith Kahle, observes its seventh anniversary this month.

### P. O. Submits Big 1941 Air Mail Budget

Although exact figures are officially lacking, it is believed the Post Office Department has asked the Bureau of the Budget for an increase of approximately \$4,000,000 over the current appropriations (\$17,930,000) for air mail payments. First Assistant Postmaster General W. W. Howes transmitted the budget request Sept. 14. Significant feature of the budget request is that the money requested is all to go for new pay schedules—increased frequencies—on existing lines. No money is included for new routes since the CAA has not yet rendered any decisions on these. Hence Gen. Howes budget requests mark an all-time high for funds exclusively for payments to existing lines. Large increase in use of air mail is principal reason for the high figure, plus the fact that Gen. Howes is anxious for expansion of airline schedules to provide better service to the public. Airline officials are increasingly impressed with his definite interest in aviation expansion and point to the Sioux Falls airport dedication as one example.

## Decade of Service



Cyril C. Thompson

Executive assistant to the president of United Air Lines, has been awarded a diamond-studded button signifying 10 years of continuous service with United. For several years he has been attached to the president's office. First identified with Boeing Air Transport in 1929, he served as a director of that company, of United Airports of California and as director and secretary of United Air Lines.

Harris & Ewing Photo.

### NY & NJ 99's Meet Nov. 4

The Ninety-Nines, New York-New Jersey section, on Nov. 4 will give a dinner-dance honoring the memory of the late Amelia Earhart and celebrating the 10th anniversary of the founding of the club at the Waldorf-Astoria Hotel in New York.

### NAA Winter Session Set

The NAA will hold its winter convention in New Orleans from Jan. 10 to 12, it was revealed recently, and it was said approximately 600 persons are expected to attend. The association met in Cleveland prior to the National Air Races and voted to hold the winter meeting in New Orleans over bids of Detroit, Denver and New York.

### SAE Prepares Display

An aircraft engineering display, developed at the request of aircraft engineers and executives, is to be held at Biltmore Hotel, Los Angeles, in conjunction with the annual meeting of the Aviation Section of the SAE, Oct. 5-7. General Manager John A. C. Warner has announced. J. H. Kindelberger, president of North American Aviation Inc., heads the committee operating the aircraft engineering display, while Mac Short, president of Vega Airplane Co., is general chairman for the meeting. SAE aircraft production meetings have been held annually in Los Angeles since their inception in 1936.

## CAA GETS PUBLIC ROADS' BUILDINGS

Will Build Other Structures Also to House Personnel; Airport Plans Moving Rapidly

The Civil Aeronautics Authority will take over the buildings of the Public Roads Administration on the grounds of the new Washington National Airport and plans to build new structures to house all of the CAA offices and personnel, it became known when President Roosevelt approved Sept. 16 an allotment of \$1,450,000 to the PRA for acquisition of another site and construction of necessary buildings.

Meanwhile the CAA was preparing to make final selection of design for the huge terminal building to be erected at the airport and to be ready for use sometime next year. The structure is expected to cost between \$750,000 and \$1,000,000 and will rank among the finest air terminals of the world. The entire airport is expected to cost about \$15,000,000 and about two-thirds of the bill already has been completed.

No new legislation is believed necessary to permit the CAA to move its offices and personnel to the airport grounds. The agency is currently paying \$175,000 rent in the District of Columbia and a considerable saving will be effected by the move, it is believed. Present buildings occupied by the PRA would house only one-third of the CAA personnel.

## Body of Harold Stark Found in Mountains

An intermittent 3-year search for Howard Stark of Alexandria, Va., air navigation expert and Commerce Dept. air inspector who disappeared in a snowstorm Jan. 16, 1936, is believed to have ended with identification of a body found by a sheepherder in the Wasatch Mountains of Utah, Sept. 20. Identification was made by U. S. Marshall Gilbert Mecham of Huntsville, Utah, from a pilot's license found in a wallet beside the body.

Stark's plane, which turned over after an unscheduled landing while he was on official flight for the former Bureau of Air Commerce from Rock Springs, Wyo., to Salt Lake City, was found May 30, 1936, but trace of the pilot was missing. Stark's body was found about six miles from where he had left his plane in an apparent effort to foot his way out of the mountains. Cold and exhaustion after he had waded through heavy snowdrifts were the evident causes of death.

### Snow Gets Directorship

Crocker Snow of the Army Reserve Corps on Sept. 11 was elected director of aviation by the Massachusetts State Aviation Commission.

### 2 Conferences Canceled

The Western Aviation Planning Conference, which was scheduled to be held Sept. 22-23 at Fresno, Cal., and the Northwest Aviation Planning Council, set for Oct. 5-7 at Seattle, Wash., were canceled because military representatives were unable to attend.

### Mass. Commission Changed

The Massachusetts aviation commission, according to the NASAO bulletin, has been changed to an unpaid, five-man commission, consisting of the following: Chandler Hovey, chairman, Newton; Dr. Jerome C. Hunsaker, Robert M. Love, Gardiner H. Fiske and John M. Wells.

## Sioux Falls Takes its Place With the Best



Air view of the new Sioux Falls Airport in South Dakota which was dedicated Sept. 16 by Gen. W. W. Howes, First Assistant Postmaster General. It ranks as one of the finest fields in the middle west.

## SIOUX FALLS PORT OPENED BY HOWES

### Seven Airlines Send Transports to Make Dedication an Important Aviation Event

The new \$500,000 airport at Sioux Falls, S.D., was dedicated Sept. 15 amid one of the greatest aeronautical and civic celebrations held to date, at least for a community not now served by an airline. With First Assistant Postmaster General W. W. Howes as the key figure in the dedication, seven airlines flew transports to the city with their officials.

A formation of three Douglas DC-3 planes flew from Chicago, led by a United Air Lines Mainliner with Capt. John Murray at the controls. An American Flagship and a TWA Sky Club completed the formation. As the flight was to pass over Cedar Rapids, Waterloo and Mason City, Iowa, a wire was sent to the postmaster of these cities asking them to inform newspapers and radio stations that a squadron of transport planes bearing Mr. Howes and other officials would salute their cities at stated times. Thus the attention of many communities was focused on air transport as the formation winged its way across Iowa.

Gen. Howes was chief speaker at the dedication and at a large luncheon attended by city and state leaders.

From Oklahoma City Braniff Airways flew a Douglas DC-2 carrying Tom E. Braniff and other Braniff officials. Thomas F. Ryan III, executive vice president and J. W. "Bill" Miller, general manager, of Mid-Continent Airlines, arrived in a company Lockheed



T. B. Wilson, chairman of the board of TWA, snapped by the camera as he was eating lunch in a TWA transport bound for Sioux Falls.



W. W. Howes shown on his way to Sioux Falls in a TWA transport talking with Hostesses Gallmeier and Katherine Wilson who won the "Miss American Aviation" title at Birmingham in June.

Electra. Inland Airlines was represented with a Boeing 247, and Northwest Airlines flew a Douglas DC-3 carrying Croll Hunter, president, and George Gardner, operations manager. On the TWA ship was Tom Wilson, chairman of the TWA board, and on the American Flagship was O. M. Mosier, vice president. United was represented by C. C. Thompson, assistant to the president, and Harold Cray, vice president-traffic. Miss Katherine Wilson, TWA's "Miss American Aviation," other stewardesses, district traffic managers and other airline personnel, completed the sizeable transport group.

Airline officials agreed the dedication was one of the most impressive public relations demonstrations ever given by the industry and praised General Howes for having arranged it. General Howes has taken a personal interest in the Sioux Falls airport development, he being a native of South Dakota.

### Representative Arrives

T. M. Donohoe, California attorney, recently arrived in Anchorage, Alaska, in a new Fairchild preparatory to establishing an office there to serve as representative of the third division on the territorial Aeronautics and Communications Commission. Appointed by Gov. Troy, he succeeds the late M. D. Kirkpatrick.

## CAA Starts \$100,000 Research on Psychological Aspects of Flying

A \$100,000 research study on the psychological and physiological aspects of flying is being launched by the CAA under direction of Dean R. Brimhall, assistant to Chairman Robert H. Hinckley. The funds are to come out of the \$4,000,000 appropriation for the pilot training program and will go to about a dozen universities not yet selected.

Brimhall, who is a Ph.D and who was until a few months ago a "labor specialist" in the WPA, is a former partner of Hinckley in a fixed base operation at Ogden and Salt Lake City, Utah. With the pilot training and private flying activities of CAA largely centered in Mr. Hinckley's office, Brimhall was placed in charge of the research program.

Brimhall said the National Research Council, which is part of the National Academy of Sciences, will appoint a committee of prominent psychologists

and physiologists to act in an advisory capacity and to guide the studies generally.

Research will range from optics and physiology to muscle tension and learning processes. The universities will use the pilot training students as guinea pigs and will conduct the studies in their own laboratories. Head of the National Research Council is Prof. Ross G. Harrison of New Haven, Conn.

According to Brimhall, the CAA is interested in improving methods of instruction and improving the method of selection of pilots. He said the program is being launched with no preconceived notions and is intended to throw more light on processes of teaching people to fly. How much the study will overlap medical research work already in progress at the CAA's medical laboratory at Kansas City, Mo., is not known.

### Civil Service Exams

The U. S. Civil Service Commission has announced open competitive examinations for positions of transportation economists. Applications must be on file at Washington by Oct. 16 except for those filing from western states when the date is Oct. 19. Positions are as follows: Principal transportation economist, \$5,600 a year; senior transportation economist, \$4,600 a year; transportation economist, \$3,800 a year; associate transportation economist, \$3,200 a year, and assistant transportation economist, \$2,600 a year. Among six optional transportation fields, air transportation is listed first, with the CAA as the agency. Applicants must have had economics education.

### Air Reserve Meets Oct. 9-11

The Annual Air Reserve Conference has been arranged for Oct. 9-11 at Mitchel Field, L. I., N. Y. The annual meeting of the Air Reserve Association will be held at Hotel New Yorker, New York City, and a concurrent conference of unit instructors will meet at Mitchel Field. Program includes general conference at Mitchel Field on the 9th, a meeting followed by a tour of the NY World's Fair on the 10th, an association meeting on the 11th, followed by a banquet in NY on the night of the 11th where the group will be addressed by Maj. Gen. H. H. Arnold and others.

### Cole to Boutelle's Office

Elwood B. Cole, chief of the state coordination section of the CAA in the private flying division, has been shifted with the same title to the office of Richard S. Boutelle, director of the bureau of safety regulation.

### High-Strength Alloys

Metallurgists have succeeded in developing new high-strength magnesium alloys that make possible the construction of military airplanes capable of speeds more than 400 miles per hour. Dr. A. W. Winsten, chief metallurgist of the Dow Chemical Company, reported to the Electrochemical Society Sept. 13. These alloys, he said, have a weight only two-thirds that of aluminum and one-fourth that of steel, making possible much lighter engines. The new alloys also resist corrosion, he said. He attributed the tremendous strides in the magnesium industry to the rearmament program.

### HORNER REPORTS

#### Asks Continuation of Air Progress Committees for Mid-Winter Conference

With conclusion of Air Progress Sept. 24, the National Aeronautic Association and the Joint Aviation Council are planning to continue the National Air Progress committees for a second large aviation planning conference during the coming winter. The first conference was held in Washington last February.

At the wind-up meeting on Air Progress held in Washington Charles F. Horner, NAA president, urged a strong program for the development of civil aviation. He said the public demand for civil aviation development was increasing and that the manufacturers and airline operators should be planning for post-war fulfillment of this demand.

Horner reported on the successful Air Progress celebrations held in hundreds of communities. Those present at the meeting included William P. Redding, chairman of the Air Progress organization committee; D. Walter Swan, United d.t.m. for Washington; Carl Hinton, chairman of the publicity committee and secretary of the Amarillo, Texas, Chamber of Commerce; W. B. Briggs, d.t.m. for Eastern Air Lines in Washington; Don Duff, d.t.m. for Penn-Central in Washington; Cyril C. Thompson of United Air Lines, member of the executive committee, and Kendall K. Hoyt, of the publicity committee. Leaders in the discussion were R. W. Hambrook, of the U. S. Office of Education; Irving Taylor, export manager of the Aeronautical Chamber of Commerce, and Verne S. Sullivan, of the U. S. Chamber of Commerce.

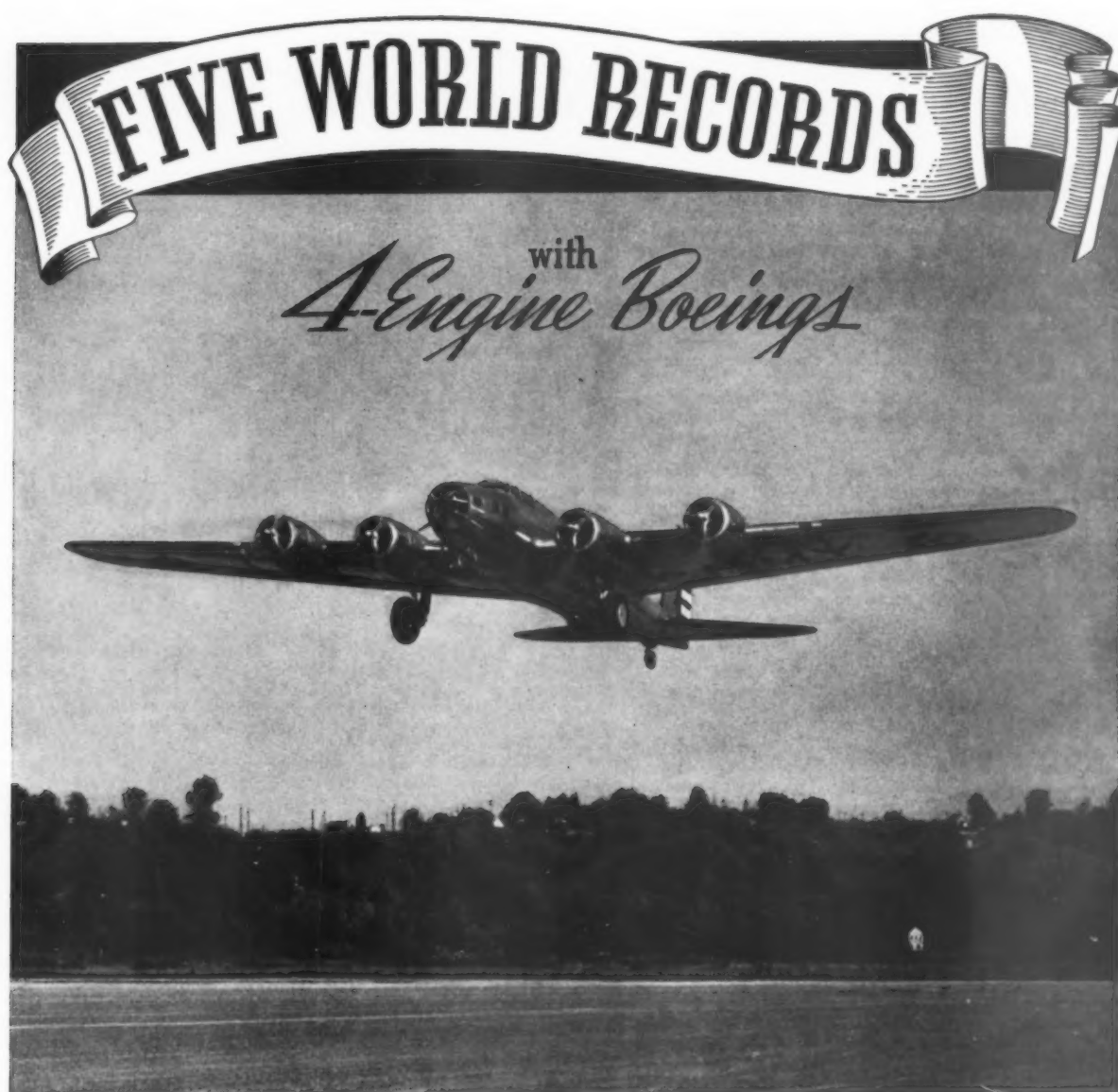
### Powers Leaves Martin

Marsh K. Powers, assistant to the president of Glenn L. Martin Co., has left the firm, it was learned Sept. 18. No successor has been named.



W. W. Howes speaking at the exercises.





THE REMARKABLE SERIES of world record flights made recently by the United States Army Air Corps in connection with its thirtieth anniversary program reflects great credit to the efficiency of the nation's Army air force and its equipment.

The BOEING COMPANY takes pride in the fact that five of these records were made in the Army's 4-engine BOEING Flying Fortress and Super Flying Fortress types.

Following are the categories in which these planes set new international performance marks.

**B-17A Flying Fortress** — Greatest speed for 1000 kilometers (621.4 mi.) with a pay load of 5000 kilograms (11,023 lbs.); and greatest altitude with the same pay load.

**B-17B Flying Fortress** — Fastest time over the Los Angeles-New York course for airplanes carrying passengers or crew.

**B-15 Super Fortress** — Greatest pay load carried to an altitude of 2000 meters (6,561.666 ft.); and greatest speed with a pay load of 2000 kilograms (4409.244 lbs.) for a closed course distance of 5000 kilometers (3107 mi.).

These record-breaking flights, made with standard service equipment, are indeed a striking demonstration of the capabilities of America's aerial defense.



**BOEING HAS ALWAYS BUILT TOMORROW'S AIRPLANES TODAY!**

## Airlines Watch Express Situation; Some Oppose Certificate for REA

Only Want CAA Approval of Contracts, to Safeguard Against Having Routes Paralleled; United Favors Permit With Restrictive Clause

The last two weeks have seen the crystallization of opposition against the granting by the CAA of "grandfather" air carrier certificate to Railway Express Agency, and several of the airlines have definitely stated that they plan to file briefs with the Authority against such a certificate.

Railway Express has asked the Authority for an air carrier permit inasmuch as it has contracts with all the companies. The airlines are inclined to look more or less suspiciously upon REA getting such a certificate because, if granted, REA could, if it desired, purchase aircraft and parallel every route in the U. S. At its hearing on July 17, REA representatives testified that their organization had no idea of doing this, but some of the airlines feel that it will be better to play safe.

In Washington on Sept. 13, attorneys representing TWA, American, United, Eastern, Penn-Central, Northwest, Braniff, Continental and Mid-Continent met with Howard Westwood, Air Transport Association counsel, to discuss the entire express situation. Outcome of the conference seems to be that all the airlines represented, except United, are in favor of asking the CAA merely to approve REA's contracts, maintaining that it is not necessary for REA to have a certificate.

United takes the position that REA should have a certificate with perhaps a clause written in prohibiting the agency from operating aircraft. Otherwise, UAL states, the field will be open for other express concerns, because REA's contracts can be canceled on six months' notice.

Only TWA, Eastern and American sent attorneys to the July 17 hearing, but several of the other lines now state that they intend to file briefs with the Authority also. Extension of the brief deadline from Oct. 1 to Dec. 1 has been requested, but no action had been taken on the application at this writing.

It also was learned that United's competitors are dissatisfied with the clause in the REA contracts which they say freezes the situation as of the date the agreements were signed several years ago. The clause in question reads: "Primary purpose of this Agreement is to insure the public of the most expeditious, economical and efficient air express service possible and with this primary consideration the Express Company, to insure and preserve a proper and equitable portion of all air express traffic to the Air Company and to the air companies having similar agreements with the Express Company, agrees to use its best efforts to divide the traffic on a fair and equitable basis between the carriers, giving due consideration to reliability and frequency of schedules, direct routing, cargo space in aircraft, terminal facilities and to the volume of traffic carried on lines concerned at the date hereof."

The carriers claim that United, which was the top airline when the agreements were signed, gets most of the express and is more or less favored because of the words "at the date hereof." Whether anything can be done about the alleged claim is not known at this time. In 1938, United's express revenues amounted to \$430,405.48, American's were \$353,617.00, while TWA and Eastern list \$159,837.26 and \$113,587.85, respectively, for express and freight.

It has been rumored in Washington that other parties have expressed interest in the air express field. Such parties would be badly stymied if REA were granted a "grandfather" certificate. The present contracts contain a

clause stating, "The Air Company agrees that during the time in which operations are carried on under this contract it will not accept express business . . . from any party other than the Express Company."

Present method of payment under the contracts provides that the airline receives 87½% of the monthly gross revenues and REA gets 12½%. However, before turning over the 87½%, REA "shall deduct for such month the Air Company's proportion of all out of pocket expenses incurred by the Express Company in connection with such transportation," such as advertising agreed upon with the Traffic Committee (airline representatives), stationery and printing, insurance premiums, loss and damage not covered by insurance, injuries to persons not covered by insurance, pay of drivers, helpers and other employees, charges for pick-up, delivery or transfer services, reasonable operating expenses, depreciation and repair to equipment, license fees and taxes, other than income taxes, directly applicable to the air express business. The contracts also state that "in the event the gross air revenues earned by Express Company for any month are not sufficient to cover the deduction herein provided for, then any deficit therein shall be carried forward as a deduction for the succeeding month."

### Davis' Bonus Ruled Out

Because Dale Myers, a licensed pilot of Tulsa, Okla., accompanied her, Arlene Davis, Cleveland aviatrix who placed fifth in the Bendix Trophy Race Sept. 2, was not awarded the \$2,500 bonus posted for the woman pilot making the best time in the event, Clifford W. Henderson, managing director of the 1939 National Air Races, has announced. The ruling is "ridiculous," says Mrs. Davis, but "any woman having a licensed pilot with her is ineligible," rules Henderson. Fifth place brought Mrs. Davis \$1,000 prize money.

Mrs. Davis flew a Spartan Executive plane in the Bendix race, instead of a Beechcraft, as was reported in the Sept. 15 issue.

## Van Zandt Named Economic - Technical Consultant to CAA

J. Parker Van Zandt, who since January has been chief of the foreign economic research section of the CAA's international division, was appointed economic and technical consultant to the Authority on Sept. 25.

Van Zandt has been in aviation for 22 years, holds pilot's license No. 17 and has several thousand hours of flying time. Born in Chicago, he attended the Universities of Chicago, Washington and California, being graduated with a B.S. degree in 1914 and a Ph.D. in 1917. The same day he finished his Doctor's exams, he left for France, serving with the French Army until the arrival of American forces.

After the War, Van Zandt helped organize the Air Corps Engineering School at Dayton, O., and later the Air Navigation Branch. The earth inductor compass used by Lindbergh and the Army model airways were among projects said to have been initiated by him.

From 1935 to 1938, he was with Pan American Airways, first at Honolulu and later as general representative at Manila. Van Zandt is an Associate Fellow of the Institute of the Aeronautical Sciences and a member of Sigma Xi.

### Chappell Resigns

Frank V. Chappell of New London, Conn., has resigned from the state airport commission which he had served as chairman since its creation in 1929. "Pressure of business" was the reason given by Chappell for his resignation which became effective Sept. 15.

### Kuhn Instructs at Stillwater

Cliff Kuhn, former Tulsa pilot, has been chosen associate flying instructor at Stillwater (Okla.) Airport, Mgr. Al Guthrie announced recently.

## Five Lines Will Occupy Terminal



Architect's drawing of New York's union airline terminal which will be occupied by American, Eastern, Pan American, TWA and United. Structure is expected to be ready for occupancy early next year. Story in col. 4.

## NY AIR TERMINAL PLANS REVEALED

Five Lines Will Occupy Structure; Work to Begin Immediately As Result of \$6,000,000 Deal

Under discussion for over a year, plans for a union airline terminal which will stand on the site of the old Belmont Hotel at Park Ave. and 42d St. in New York City were announced in mid-September following completion of a three-cornered deal reported to involve about \$6,000,000. Work was scheduled to begin immediately.

The building will be operated by Airlines Terminal Inc., of which Paul H. Brattain, vice-president of Eastern Air Lines, is president. Lines cooperating in arranging the project are Eastern, TWA, American, United and Pan American. Purpose of the building is to form a central terminal for airway companies doing business in New York City.

One of the features of the building, plans for which were completed by John B. Peterkin, architect, will be a central waiting room, 150 x 60 ft., with a ceiling height of 30 ft. It will provide ticket offices, information desks and other services, making it possible for the air traveler to arrange for connections to all parts of the world.

Main entrance to the terminal will be from the street level on the center of the 42d St. facade, from which point escalators will convey traffic to the waiting room and reservation areas, where passengers may purchase tickets and enter directly the coach concourse on the 41st St. end of the terminal.

Incoming coaches from the airports will enter this concourse, discharge passengers, and be lowered to another level onto a turntable to be positioned for immediate return to the main waiting room level to again receive passengers for the airports. Lower levels will contain storage space for coaches and facilities for loading baggage to provide instant transportation during peak load hours.

The five lines will occupy about two floors of office space in the building, which, according to Peterkin, will be equivalent in height to an ordinary seven-story building.

Exterior of the building will be of limestone and marble design in a monumental, modern classic style. Central motif of the 42d St. facade will terminate in a composition of sculptured eagles and bronze lantern, providing an effective night illumination. This entrance-way will be three stories high. Waiting room will be decorated with murals depicting the history of aviation.

A 600-seat newsreel theater, with a 42d St. entrance, also will be incorporated in the building. A bar and restaurant as well as other stores will occupy the lower portion of the building.

It is believed that the terminal's proximity to the Manhattan end of the 38th St. East River tunnel will provide fast transportation from the center of N Y to the city's municipal airport at North Beach.

Leasing of the location was accomplished by Floyd deL. Brown, president of Bethlehem Engineering Corp., sponsors of the project who will build the structure. The Bethlehem corporation has arranged to lease the property, through Charles F. Noyes Co., from Mutual Life Insurance Co. of New York who acquired the property in 1934.

### Canaday Named Chief Pilot

Malcolm Canaday has been named chief pilot of San Luis Obispo (Cal.) Flying Service.



# Welcome to the Pioneers!

**M**EMBERS of the 1939 National Convention of The National Association of Postmasters in Washington, D. C. rank among the pioneers of this nation's vast air transportation system. For the history of modern air transportation in the U. S. A. is the history of the Air Mail service with which postmasters have been so vitally identified.

Quoting the Hon. William W. Howes, first assistant postmaster general, in NATIONAL AERONAUTICS Magazine:

"Starting with a 218-mile single route established by the Post Office Department between Washington and New York on May 15, 1918, in less than 22 years the air mail service has grown to a comprehensive nation-wide and trans-oceanic system embracing some 68,000 route miles and 70,000,000 annual flown miles. Development of this service has been swifter and more far-reaching than perhaps any other established in the Post Office Department's century and a half of history. The strides that have been made by this country in the establishment and the development of its domestic and foreign air mail routes are the wonder of the world. No other country can boast of such progress along these lines."



## FROM THIS

The Pitcairn Mailwing, pioneer "Pony Express of the Air" was used by Eastern Air Lines for conveyance of mail only, 1928-1935. The Mailwing gave conspicuous and distinguished service.

Eastern Air Lines' predecessor company, Ludington Air Lines, pioneered the New York-Washington route.

The Eastern Air Lines Family is proud to have participated in this pioneering of air transportation in America, inspired by the Post Office Department. The record speaks for itself. An average of 1,169 passengers and 15 tons of U. S. mail are in the air every second out of the 24 hours on regularly established airlines.

Thanks to this phenomenal growth achieved by air transportation, peoples of the Western hemisphere stand in close fraternal bond.

## CAME THIS

On October 16, 1935 the "Pony Express of the Air" was replaced by the Douglas DC-2 fourteen passenger Silverliner. It was the last open cockpit airplane to carry U. S. Air Mail on contract schedule.



## AND THIS!

Today 28 luxurious Silverliners comprise The Great Silver Fleet, flying more than 19,000 passengers, 163 tons of mail and 75,000 pounds of air express monthly.



Eastern Air Lines' specific contribution to today's air transport picture:

- ✓ A system 5,330 route miles in extent.
- ✓ A daily flight log of more than 31,000 miles.
- ✓ A fleet of 28 luxurious Silverliners.
- ✓ A record of more than 300 million passenger miles flown.
- ✓ A swift Silverliner air passenger, air mail and air express service to 16 Eastern, Southern, Southwestern and Middlewestern states.
- ✓ A direct service without change of plane to Brownsville, Tex., on the International border where connection is made with Pan American Airways for Mexico, Central America and the West coast of South America as well as direct service to Miami where connection is made with Pan American Airways for the Caribbean countries and the East coast of South America.

Cognizant of the pioneering role the Post Office Department played yesteryear when aviation was in its infancy, and knowing well the importance it plays today and will continue to play for the development of air transport of tomorrow, The Eastern Air Lines Family welcomes the myriad "envoys" of the Department to their annual national convention.

# EASTERN Air Lines

MEMBER OF THE NATIONAL SAFETY COUNCIL

## LOCKHEED TESTS TWIN LODESTAR

Quasi-Secret Commercial Transport  
Carries 14 Passengers, Crew of  
3; Will Cruise at 218

Built under quasi-secret conditions in a corner of the Burbank, Cal., factory, a commercial bi-motor monoplane, known as the Lodestar, received its initial test hop on Sept. 21 by Marshall Headle, chief of Lockheed Aircraft Corp.'s staff of test pilots, accompanied by a flight research technician. Headle said the new plane "fully meets the requirements" as far as the pilot is concerned.

Designed for 14 passengers and crew of three, the Lodestar has a wing span of 65' 6", is 49' 9 7/8" in overall length and is of conventional transport design. According to Carl B. Squier, vice-president & sales manager of Lockheed, top speed was set at 236 mph. by engineers who designed the plane. Speed tests will be used to certify this factor as well as other performance characteristics.

The Lodestar weighs 17,500 lbs. and will cruise non-stop for 1,150 mi. at a speed of 218 mph.

"As a result of a recent survey of the current requirements of air transport operators in the U. S., Canada, Mexico, Central and South America, the Lockheed company feels this sized plane is a most desirable type and should find a ready market," Squier said. It was said the Lodestar is ready for immediate production, and the company can offer purchasers the best delivery dates in its history.

Distance from cabin roof to floor measures 6' 3". The insulated and

## Cited for Bravery



performed in Nov. 21, 1933, when he was flying the mail in a single-engine Lockheed Orion from Ft. Worth to El Paso. As he approached El Paso a propeller broke causing the plane to catch fire, but he stayed with his ship and landed it on the field. He was in a hospital for several weeks recovering from burns received, but since that time Capt. Ingram has been flying for American regularly on the Glendale-Ft. Worth route.

A portrait of Capt. Jim Ingram, American Airlines pilot, being painted by Carruth Leigh Smith, Chicago artist, will be hung in the 'hall of fame' at New York Municipal Airport (North Beach) for "Meritorious and heroic action in line of duty." Capt. Ingram earned his citation for bravery as a result of an act

ventilated cabin is 24' 6" long. Swiveling passenger chairs can be reclined or turned in any direction. Baggage is carried in the underside of the fuselage ahead of the wing intersection and in three smaller compartments below the cabin floor. Additional space is available inside the plane for hand luggage.

Squier said production of Lockheed's commercial models "has not been hampered by the increased volume of military commitments from both our own and foreign governments" and that the construction of all commercial types has been continued at full capacity. Preparation has been made, he said, for quantity production of the Lodestar without interference with other orders on Lockheed's books.

## Frogley and Washburn Join AA's News Staff

Kenneth G. Frogley, former sports editor of the *Los Angeles Daily News*, and Stanley Washburn Jr., contributor to national periodicals, have joined the publicity staff of American Airlines, it was revealed Sept. 14 by Edward G. Bern, director of publicity.

Bern also stated that Stewart Faulkner, formerly of New York, had been promoted to the position of publicity director of the western division of the line with headquarters in Los Angeles. Buell Patterson is director of the central division with headquarters in Chicago.

Frogley is at present stationed in Chicago, while Washburn is working in the NY office with James Winchester. Frogley is a graduate of the University of London, Patterson of the University of Chicago and Washburn of Yale University. Frank L. Brunton, graduate of Northwestern University and former Chicago newspaperman and magazine writer, is an assistant to Bern and editor of *Flagship News*.

### UAL Cancellation Hearing

Hearings on United Air Lines' suit against the U. S. Government as a result of the 1934 air mail contract cancellations are scheduled to reconvene Oct. 23 before Court of Claims Commissioner Richard Akers. The hearings have been in progress intermittently for more than a year. The record in the proceeding is at present about 7,000 pages long.

### UAL 4th Schedule Daily

Effective Oct. 1, United Air Lines' fourth mail pay schedule between Chicago and Salt Lake City will be made daily instead of five days a week. All three transcontinental carriers will then be on the same basis, American between Newark and Ft. Worth, TWA between Newark and Kansas City, and United as mentioned.

### Inst. Landing

(Continued from page 1)

use the system at commercial airports and vice versa when necessary or in times of national emergency.

Some officials expressed the opinion that a much easier and quicker means could have been found for deciding upon a standard system.

Through the Air Transport Association the airlines are being asked by the CAA to cooperate in the President's request.

## Tom Beck Enlisting Radio 'Hams' to Aid Bad-Weather Flying

Thomas H. Beck, president of the Crowell-Collier Publishing Company, has undertaken the job of interesting the Amateur Radio Relay League with its 40,000 members ("hams") in agreeing to give 24-hour service at non-radio-equipped airports in order to provide weather and traffic radio service for all airports.

Mr. Beck said he and his company are endeavoring to do this if the Federal Communications Commission will assign channels and if the Civil Aeronautics Authority can be induced to set up regulations. Since radio amateurs cannot accept pay, he said his company may offer an annual trophy for the best service if the plan can be worked out. He said valuable service may be rendered by this plan to off-course ships flying in soup or storms. His company is the donor of the Collier Trophy.

### Expansion

(Continued from page 1)

the training program as valuable aid in building up Air Corps.

Airlines: There are no plans in Washington for "taking over" management and operation of airlines in event of national emergency, but special legislation will probably be sought to permit the CAA to have complete control of schedules in order to shift planes and personnel as demand requires. National defense plans call for airlines remaining in present operators' hands and all airline pilots remaining in their jobs regardless of Reserve connections.

Airports: A very substantial expansion of landing facilities may be expected on grounds of national defense. Air Corps has expressed increased interest in seeking to have municipal airports improved and is cooperating with CAA to this end. A concrete proposal for use of federal funds to build and improve airports is expected at regular session of Congress in January.

New Routes: CAA may hold up decisions on establishment of new airlines pending assurance that transport planes, mechanics and other operating personnel will actually be available. CAA is not inclined to authorize new routes if equipment and personnel is not assured.

Air Mail: Post Office Department asking for \$4,000,000 increase in appropriations for fiscal year 1941 (starting July 1, 1940) for more pay schedules on existing airlines. No funds for new routes being asked pending decisions by CAA. P. O. is inclined to speed expansion of airline services here and in Central and South America on grounds of national defense and general aid to aviation and business.

Manufacturing: Airlines rush to place orders for transport equipment as hedge against possible stoppage of all commercial aircraft manufacturing to make way for military production. War Department will not guarantee commercial production will be continued in event of national emergency.

CAA Budget: Although figures are not known, the CAA has submitted its budget estimates for 1941 which include substantial increases over current fiscal year. Airways and ground facilities are being rushed and Alaskan projects will be pushed. Notable change in feeling in some Washington quarters that the government must spend far more for aeronautical development than heretofore.

## The Power Behind Progress Is PEOPLE!



☆ The test for permanence of any idea is to determine if the public is capable of accepting it as a matter of course. Air transportation was once so novel that the wisdom and vision of its founders were the principal stimulus to progress. Today, the tremendous pressure behind progress and improvement comes principally from the public. They've found air travel suited to their needs and desires. They want more of it! A survey of the industry's progress to date leads to the conclusion that the world *hasn't seen anything yet* when it comes to the public service the industry is yet to render. We of American Airlines are profoundly glad that we are in this business. And we are quite aware of the obligations as of the opportunities that lie ahead.

**AMERICAN AIRLINES Inc.**

ROUTE OF THE FLAGSHIPS • COAST TO COAST



## Railroads Have Their Ears to Ground; Pledge Adequate Freight Facilities

Apparently stirred to action by recent editorials alleging that American railroads were unprepared to meet a wartime freight moving emergency, the Association of American Railroads, through its president, J. J. Pelley, issued from Washington Sept. 19 a lengthy statement of intention to meet all current and future freight service demands.

"There will be adequate railroad transportation in the United States for any increased business now in prospect," Mr. Pelley said. "To insure that this will be the case, the railroads are agreed upon a policy of putting into repair their cars and engines which have not been needed to handle current business. In addition, as traffic and earnings may justify it, additional equipment will be ready to meet demands which may develop.

"The railroads are putting themselves in readiness in advance of demand. They do this in spite of the fact that of late years traffic has not required, and earnings have not been sufficient to permit them to keep all facilities in immediate serviceable shape. As they did in 1923, however, railroads have determined to spend money which they have not earned in order that they may meet a public need, on the faith that there will be hereafter a square deal in public transportation policies."

Mr. Pelley said the average freight car today has a capacity eight tons greater than in 1918, the average locomotive has a 43% greater pulling power, and freight trains move 60% faster. "The railroads are and will continue to be ready to meet national needs."

## Air Transportation Cramped by War; PAA Continues, Adopts Neutral Policy

With the outbreak of war in eastern Europe, many transport companies discontinued service or curtailed schedules to and from points near the zone of military activities. Imperial Airways discontinued service on its Empire routes and its trans-Atlantic flights, inaugurated Aug. 5, were operating irregularly. New York-Bermuda service also was canceled.

KLM, Royal Dutch Air Lines, announced on Sept. 18 that contrary to news releases in the U. S. stating that it had discontinued all of its services, the line's Amsterdam-Batavia line will be operated twice weekly from Naples to Batavia and twice weekly Batavia to Naples.

On KLM's European services, two daily services are being operated from Amsterdam to Copenhagen and Malmo, Sweden; three services weekly from

Amsterdam to Christiansand and Oslo; and three services daily from Amsterdam to Brussels. All other services in Europe have been canceled until further notice, it was announced. New services in the West Indies, including the new line from Curacao to Paramaribo, will continue to operate according to schedules now valid.

Pan American Airways on Sept. 14 put into effect a policy of strict neutrality affecting express, items to be carried in passenger baggage and types of passengers to be accommodated. Certain of these regulations are the same as those which have been in effect on PAA's trans-Pacific route for more than two years since the beginning of the Sino-Japanese hostilities.

PAA experienced unusual demand on its trans-Atlantic clippers when hostilities broke out in Europe. At that time the company dropped terminals in belligerent countries—(Southampton in England; Marseilles in France)—and established terminal bases at Foynes, Ireland, for the northern route, and at Lisbon, Portugal, for the southern.

New running times went into immediate effect, making running time from NY to Foynes 19½ hrs.; 20 hrs. to Lisbon.

Rumors that Trans-Canada Air Lines had been taken over by the department of national defense for military purposes and had discontinued passenger service were denied on Sept. 21 at TCA headquarters in Montreal. Passenger reservations are being made as usual. It was pointed out that the government had indicated its desire that TCA be maintained as a vital communications service.

### Injured Pilot Improving

Claude Seaton, pilot of the Braniff Airways plane which crashed at Oklahoma City Municipal Airport on Mar. 26 with the loss of eight lives, is recuperating at his home in Dallas, having been discharged from an Oklahoma City hospital on Sept. 9. Seaton received fractures of the right arm, right ankle and left foot in the crash. He is now able to walk with the aid of crutches.

### Gets 1st PAA Fellowship

William Walter Lewis of Ann Arbor, Mich., has been awarded the first Pan American Airways travel fellowship to study in Latin America and on Sept. 17 boarded the Argentine Clipper at Miami for Rio de Janeiro, Brazil, where he will make a geographical study of land tenure in the Parahyba Valley while studying at Instituto Brasil Estudos Unidos.

## Imperial Airways

...THE FIRST TO...

- operate two, three, and four-engined air liners
- operate large four-engined air liners and flying-boats
- serve full course meals during flights

...THE ONLY AIR

TRANSPORT COMPANY TO...

- develop and employ composite aircraft
- experiment with refuelling in the air
- carry 2,000 tons of mail in a year

IMPERIAL AIRWAYS made the first commercial survey flights across the North Atlantic in conjunction with Pan-American Airways

# IMPERIAL AIRWAYS

*are always pioneers*

Bookings and information from any office of Cunard White Star Ltd., who are General Agents for Imperial Airways in the United States

## Air-Mailer's Debut



A machine which delivers an air mail stamp, an envelope, a piece of stationery and an air mail map, all for six cents—the price of an air mail stamp—was shown recently at American Airlines' office on Hollywood Blvd., Los Angeles. The machine, known as the Air-Mailer System, also contains an electrically operated motion picture roll which depicts aviation news. Francis Roberts, inventor of the machine, was present at the dedication to receive congratulations from postal authorities and airline officials who see in the device a boon to the increased use of air mail. Louise Campbell, motion picture actress, was guest of honor and purchased the first Air-Mailer stamp and stationery. The machines bear approval of the Post Office Dept., and it is expected they will be installed in post offices and public places.

## Custom? Oh Yea!



Four U. S. aviation officials are trying to explain to their wives these days that many strange customs exist in some parts of the world and that the old adage, "When in Rome do as the Romans do" held good in the interior of New Zealand recently. It seems that the Americans on board the PAA California Clipper on its maiden flight to Auckland were taken 175 miles into the heart of New Zealand to visit the Maori, a group of people who settled there about 600 years ago and who originally came from Hawaii. Prior to being escorted through the tribal lands the Americans were met by a Maori princess and according to the custom of the Maori, the princess greets visitors by rubbing noses.

Above photos show ample evidence of this rigid adherence to custom. From top to bottom are Brig. Gen. Arnold Kronstad, Air Corps, Langley Field, who doesn't seem to relish the greeting; Clinton M. Hester, CAA Administrator, who seems to be putting spirit and understanding into his work; Edward L. Yuravich, CAA foreign airline inspector, who got his nose mixed up with his forehead in attempting a thorough job; and J. C. Leslie, Pan Americans operation manager on the Pacific division, who exhibits traditional PAA dignity. Reason for the overcoats: it was winter in New Zealand. (Photos courtesy of the Auckland Weekly News.)

## Airport Plans In the Wind; CAA And Air Corps Working Together

With the Army Air Corps taking a far greater interest in airport construction than ever before, some aviation leaders and officials in Washington expect to see airport development as a major item when Congress begins its regular session in January. The emphasis will be upon national defense.

Another turn of events which may have an important bearing on future federal funds for airport construction is the crystallization within the CAA of the idea that airports are an integral part of the federal airways system. Although emergency fields have long been part of airways, there previously has been much opposition within the government agency against extending the scope of airways to municipal airports. There is now much sentiment,

however, for the belief that airports—no matter what kind—are as much a part of a federal airways system as a radio station and the belief that the federal government should assume some responsibility on grounds of both safety and national defense for airports and landing fields. If airports are a part of airways the CAA is empowered by existing law to go into construction work.

The CAA is currently working closely with WPA in selecting airports for improvement and construction from priority lists in which the Air Corps has played an important role. It is considered likely that there will be a strong movement on foot in Congress to expand airport development far beyond the current WPA program.

### Wheeler Gets Publicity Job

Earl Wheeler, who has served as director of publicity for Birmingham's Air Carnivals, has been named publicity chairman for the Birmingham Aero Club.

### Primo Joins Luscombe Sales

Ralph Primo of East St. Louis, Ill., has joined the sales staff of Luscombe Airplane Corp., West Trenton, N. J., it was announced Sept. 14 by the company.

### Wiley Wright to Seattle

Wiley Wright, for some years senior aeronautical CAA inspector at Atlanta, Ga., has been made private flying specialist with headquarters at Seattle, Wash., in the private flying division. He was replaced at Atlanta by William M. Robinson, formerly based at Cleveland.

### Huge 'Chute Shown

A huge parachute, 50 feet in diameter, designed to lower a plane safely in case of trouble, manufactured by Triangle Parachute Co. of Cincinnati for James Goodwin of that city, was tested at Lunken Airport recently by being inflated in the backwash of a plane. It was expected that Goodwin soon would demonstrate the 'chute with an Aeronca plane. He plans to use it in giving public appearances. The 'chute contains 2,000 sq. ft. of cloth and weighs 38 lb.

### Iturbi Completes SA Tour

Jose Iturbi, Spanish-born pianist and orchestra conductor, has returned to Los Angeles after a 42,000-mile flight around South America in his Howard 4-place cabin ship, "El Turia." Iturbi, a licensed pilot, handled the airplane himself on the trip, already having hundreds of flying hours to his credit.

## 'Down Under' on the California Clipper



Crew and observer-passengers on the first flight of the Boeing 314 Pan American clipper to Auckland, New Zealand, shown just after arrival on the "under side" of the world on Auckland Bay Aug. 31. Commanded by Capt. J. H. Tilton, the California Clipper carried a complement of 23, made the 16,000-mile round trip without incident.



Four of the government observers who made the New Zealand flight are shown as they returned to San Francisco Sept. 6. Col. Clarence Young, Pacific division manager for PAA is on left extending welcome. Others are, left to right, Commander L. C. Stevens of the Navy Dept.; Brig. Gen. Arnold Krogstad, who commands the second wing of the Air Corps at Langley Field; Lieut. George Bowerman of the U. S. Coast Guard; and Clinton M. Hester, Administrator of the CAA.

## ALASKA GETTING AIRWAYS SYSTEM

Bourne Declares New 1,800 Mi. Development Will Form a Backbone

When completed next spring, an airways radio range system extending about 1,800 miles from Nome in the upper western section of Alaska through the interior to Ketchikan in the southeast will offer Alaskan aviation communication aids common to the more developed countries, Thomas B. Bourne, chief of the CAA airways engineering division, declared on his return from a recent study of air navigation facilities in that territory. With the \$1,000,000 which Congress has appropriated for this purpose, radio range stations are being established at Nome, Ruby, Fairbanks, Anchorage, Cordova, Yakutat, Juneau and Ketchikan, which together with the intermediate fields being created among these points, will form the "backbone for the airway system in Alaska," Bourne said.

Initial step in governmental assistance for the creation of radio aids to flying came last year when the Territorial Commission was granted a small sum by the Alaskan government for installation of a radio range and weather reporting equipment at Ketchikan. The equipment was obtained from the CAA, Bourne indicated, and is similar to that being set up at the other points now.

Expressing hope for a similar Congressional appropriation next year, Bourne suggested that further extension of radio equipped airways in Alaska is quite likely, since other transportation means are very inadequate and the airways are commonly used even by the lower economic groups.

Accompanying Bourne on his survey trip was Donald M. Stuart, CAA radio engineer. The communication development program being carried out by the CAA airways engineering division, is under direct supervision of M. C. Hoppin, formerly regional airport supervisor, with headquarters at Anchorage.

## MARTIN-BALTO COURSE

Aircraft Mfr. and School Authorities Cooperate to Train H. S. Grads

A course to train high school graduates in the fundamentals of industrial workmanship, particularly in the making and assembly of aircraft parts, has been established by Baltimore, Md., school authorities in cooperation with the Glenn Martin Co. In the midst of an intensive 12-week training begun under the guidance of two instructors appointed by the school board and one from the Martin organization, 60 students are now at work at the Martin plant, maintaining a strictly-business, five-day, eight-hr. schedule as in standard factory practice. Tools and material are loaned by the aircraft manufacturer but no product of the school will be used in actual planes.

This is the third educational project sponsored by Martin, the others being a course in blueprint reading held at Baltimore Polytechnic Institute and a foreman's conference, headed by the factory manager and meeting twice monthly at the plant.

Start of the latest Martin training project nearly coincided with publication of a report to President Roosevelt by an interdepartmental committee headed by Oswald Ryan of the CAA, advising that 60,000 additional aircraft workers are needed for the current army and navy aircraft expansion programs and urging establishment of similar vocational courses.



# MAKING GOOD FOR . . .



L. O. FRITZ, Vice President, in charge of operations for TWA



WILLIAM MAXFIELD, Superintendent of Maintenance for TWA



D. W. TOMLINSON, Chief Engineer for TWA



F. T. JACQUES, Assistant Superintendent of Maintenance for TWA

TWA PLANE being serviced by the Texaco Truck at the new Albuquerque Airport.



**R**ECENTLY from TWA officials came the news of seasoned men moving up into even more responsible positions, as the result of their enviable records.

Just as these men have made good for TWA, so Texaco Aviation Gasoline and New Texaco Airplane Oils have made good in the aviation industry.

TWA now flies nearly 30,000 miles a day, exclusively on Texaco Fuel and Lubricants which have served them for over 6 years. This TWA preference for Texaco is another reason for the fact that—

*More scheduled airline mileage is flown with Texaco than with any other brand.*

Experienced Aviation Engineers, trained in the selection and application of Texaco Aviation Products, will be glad to demonstrate that savings can be made with Texaco Perfected Lubrication.

For prompt engineering service and deliveries, phone the nearest of our 2279 warehouses in the U. S., or write:

The Texas Company, 135 East 42nd Street, New York City, N. Y.

Texaco Dealers invite you to tune in The Texaco Star Theatre—a full hour of all-star entertainment—Every Wednesday Night—Columbia Network—9:00 E.S.T., 8:00 C.S.T., 7:00 M.S.T., 6:00 P.S.T.



# TEXACO AVIATION PRODUCTS

# Pilot Program is 'Bread & Butter', Not Cake, CAA Replies to Critics

Ten Students Per Ship Rule to Stand, Spokesman Says; Plan Intended As an Incentive and Primer, not Subsidy;

94 New Schools Named

With the naming of 94 additional colleges and universities, the Civil Aeronautics Authority was preparing to complete the list of 300 institutions to participate in the civil pilot training program by the first of October. A total of 260 schools had been named up through Sept. 25.

Some 11,000 students are to be trained in the 300 schools with the \$4,000,000 special appropriation made available by Congress early in the summer. The inspection division of CAA is currently re-rating instructors for the program.

Meanwhile criticism was being voiced in a few centers against the regulation that only 10 students could be trained per plane and per instructor. Among the critics was Charles L. Morris, commissioner of aeronautics for Connecticut and president of the National Association of State Aviation Officials, who pointed out that the schedule calls for three instruction periods of 30 minutes each, per week.

"Therefore, each student puts in one and a half hours a week for the first 12 weeks—and thus, each group of 10 students flies a total of 15 hours a week—or two hours a day. Now, for the sake of two hours a day, the operator must purchase and store a ship, and hire a pilot." Morris suggests a top limit of five or six hours of flying per day be placed on each ship instead of a bottom limit.

Some aviation officials have suggested that 20 students be permitted to each ship instead of 10, thus enabling the operator to have a better chance to come out profitably on the venture.

However, it was said at the CAA that such a move would short circuit the entire purpose of the program.

"This program is not being launched to subsidize the local operators," one spokesman said. "It is a bread & butter program and the operator will have to dig up the sugar and cream. It is not and has not been our intention to provide the operators with all the business they can handle at government expense. All we intend doing is to aid the operator in building up his own local private business by providing him a minimum of business he doesn't have to go out and sell."

"If we permitted 20 college students per plane, the operator would be doing fine business for the duration of the program but he wouldn't have any of his own business to fall back on when the subsidy was over. We want this program to be an incentive, a primer, to the local operator to make possible his building up a strong profitable business of his own."

"It may be true that restricting each ship to 10 students under this program the operator will not make money. But by getting 10 of his own students from his local community he will be keeping his ships busy and should make money. There will be no relaxation of the rule restricting each plane to 10 students. It wouldn't be fair to the whole program and to the operator."

Colleges named since the Sept. 15 issue was issued are:

**Alabama**  
Alabama Polytechnic Institute, Auburn  
Spring Hill College, Spring Hill

**Arkansas**  
Agricultural & Mechanical College, Menticello  
Arkansas Polytechnic College, Russellville  
Hendrix College, Conway  
John Brown University, Siloam Springs

**California**  
California Polytechnic School, San Luis Obispo  
University of Southern California, Los Angeles  
San Francisco Junior College, San Francisco  
Loyola University of Los Angeles, Los Angeles  
Bakersfield Junior College, Bakersfield  
Glendale Junior College, Glendale  
San Bernardino Valley Junior College, San Bernardino

**Delaware**  
University of Delaware, Newark

**District of Columbia**  
George Washington University, Washington

**Florida**  
John S. Stetson University, Deland  
Florida Southern College, Lakeland

**Georgia**  
University of Georgia, Athens  
Georgia Military College, Milledgeville

**Illinois**  
North Central College, Naperville  
Southern Illinois Normal University, Carbondale  
Springfield Junior College, Springfield

**Indiana**  
Evansville College, Evansville  
Indiana University, Bloomington  
Rose Polytechnic Institute, Terre Haute

**Iowa**  
Simmons College, Indianola  
Morningside College, Sioux City  
Parsons College, Fairfield

**Kansas**  
Coffeyville Junior College, Coffeyville  
Chanute College, Chanute  
Southwestern College, Winfield  
Kansas Wesleyan University, Salina

**Kentucky**  
University of Louisville, Louisville  
Transylvania College, Lexington

**Louisiana**  
Tulane University, New Orleans  
Northeast Center of La. State University (Jr. College), Monroe  
Louisiana State Normal College, Natchitoches  
Centenary College, Shreveport  
Southwestern Louisiana Institute, Lafayette  
Louisiana State University, Baton Rouge

**Maryland**  
Loyola College, Baltimore  
Western Maryland College, Westminster

**Massachusetts**  
Middlesex University, Waltham  
Worcester Polytechnic Institute, Worcester  
Northeastern University, Boston

**Michigan**  
University of Michigan, Ann Arbor  
Michigan State College, East Lansing  
Central State Teachers College, Mt. Pleasant  
Detroit Institute of Technology, Detroit

**Minnesota**  
St. Mary's College, Winona

**Missouri**  
Kansas City Junior College, Kansas City  
St. Joseph Junior College, St. Joseph  
Tarkio College, Tarkio  
Rockhurst College, Kansas City

**Montana**  
Carroll College, Helena  
Montana College, Havre (Jr. College)

**New Hampshire**  
St. Anselm's College, Manchester

**New Jersey**  
Bergen Junior College, Teaneck

**New Mexico**  
New Mexico Normal University, Las Vegas

**New York**  
University of Buffalo, Buffalo  
St. Bonaventure College and Seminary, St. Bonaventure  
Pratt Institute, Brooklyn

**North Carolina**  
Lenoir-Rhyne College, Hickory

**North Dakota**  
Bismarck Junior College, Bismarck

**Ohio**  
Case School of Applied Science, Cleveland  
Fenn College, Cleveland  
Youngstown College, Youngstown  
Baldwin Wallace College, Berea  
Marietta College, Marietta  
Xavier University, Cincinnati  
University of Dayton, Dayton

**Oklahoma**  
Oklahoma Military Academy, Claremore  
Southeastern State Teachers College, Durant

**Oregon**  
Southern Oregon State Normal School, Ashland

**Pennsylvania**  
Lehigh College, Philadelphia  
Temple University, Philadelphia  
Lebanon-Kelly Junior College, LaPlume  
Allegheny College, Meadville  
Bucknell Junior College, Wilkes-Barre  
St. Vincent College, Latrobe

**South Carolina**  
Clemson Agricultural College, Clemson

**South Dakota**  
Huron College, Huron  
Spearfish Normal School, Spearfish

**Tennessee**  
State Teachers College, Johnson City  
State Teachers College, Memphis  
King College, Bristol

**Texas**  
Lamar College, Beaumont

**Vermont**  
Middlebury College, Middlebury

**Virginia**  
University of Virginia, Charlottesville  
Hampton-Sydney College, Hampton-Sydney

**Washington**  
Pacific Lutheran College, Parkland

**West Virginia**  
Morris Harvey College, Charleston  
Concord State Teachers College, Athens

## Brown Greet's Fuller



Frank Fuller in his Seversky pursuit is shown at Cleveland being congratulated by Ray W. Brown, member of the contest and racing committees of the National Air Races and head of General Tire & Rubber Co.'s aeronautic division, after he had won the 1939 Bendix trophy race. Fuller established a new cross-country speed record and took the honor of winning the Bendix race for the second time.

## ESSAY SUBJECT CHOSEN CAA Chairman Hinckley's Contest Carries Prize List Totaling \$500

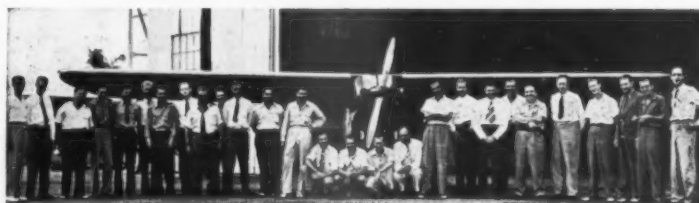
The "Cultural Value of Flying" has been chosen as the subject of the \$500 prize essay contest announced last spring by CAA Chairman Robert H. Hinckley and open to any person holding a student pilot's certificate or better. Contestants need not be college graduates or students to be eligible for the three prizes of \$300, \$150, and \$50, according to details released by Edward T. Martin (Michigan '40), president of the National Intercollegiate Flying Club.

Entries for the contest, which opens Oct. 1, 1939, and closes Jan. 15, 1940, should be limited to 1,000-1,200 words and mailed in duplicate to the National Intercollegiate Flying Club, Dupont Circle, Washington, D. C. Prizes are being donated by Chairman Hinckley because of personal interest in the matter.

## 3 Salem Planes Burn

Three private planes were destroyed by fire at Salem (Ore.) Municipal Airport on Sept. 8 with a loss estimated at more than \$9,000. Accidental discharge of a night flare was thought to be the cause of the fire.

## Florida Instructors at Orlando



Professional flight instructors of Florida, CAA officials and a representative of Aero Insurance Underwriters are shown at Orlando where they recently attended a conference concerning the CAA's plan to re-rate all flight instructors. CAA authorities in attendance were Richard Bontelle, Len Povey, Ed Nilson, W. M. Hutchins, Fred Easley and Phillips Moore. Fred Davey represented Aero Insurance Underwriters at the conference.

## Boners' Club

Henry Rafus, who heads the Rafus Flying Service, operators of the Greensboro-High Point Airport in North Carolina, has instituted a plan to prevent carelessness by flyers at his airport. Any pilot pulling a boner is now made a member of the Boners Club, which means that a notice of his "election" is posted on the bulletin board for everyone to see. Rafus believes this publicity will help the boys remember what to do and what not to do.

## King Announces Members For Two SPA Committees

Henry King, president of the Sportsman Pilots' Association, has announced the appointment of members on the following committees:

Public relations—J. D. Burnham, C. S. Hough and T. B. Colby.

Ladies' auxiliary cruise committee—Mrs. E. Bisbee Warner, Mrs. L. M. Schmidlapp and Mrs. H. L. Kirkpatrick.

The ladies' committee will assist the general cruise committee in increasing attendance of members' families on all SPA cruises.

## Mundy Wins 'Baby Bendix'

Harry Mundy of San Francisco won the inaugural "Baby Bendix" race from San Francisco to Reno in his Luscombe 65, on Sept. 3, completing the hop in one hr. and 51 min. Others entered in the race which is restricted to planes up to and including 75 hp., were R. M. Powers, Oakland; Harley Long, Palo Alto, and Janet Knight, San Francisco.

## Two Join Spartan School

Art Duske and Jim Ottzenn, graduates of Roosevelt Aviation School, have been employed by Spartan School of Aeronautics, Tulsa, Okla. Duske is employed under Capt. Maxwell W. Balfour and Ottzenn is flight instructor in conjunction with the Army training program.

## 4 O-19's Burn at Denver

Denver, Colo.—Four eight-year-old O-19 observation planes of the 120th observation squadron, Colorado National Guard, valued at about \$8,000 each, were swept by fire on Sept. 9 at municipal airport. The ships had seen six years service with the guard. Wing fabric was destroyed and metal fuselages were damaged by heat, but it was believed the motors escaped damage.

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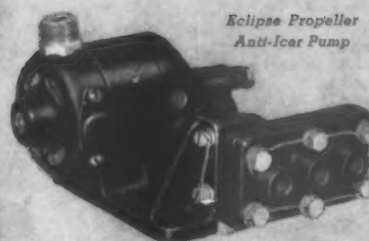
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Eclipse Vacuum  
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Eclipse Propeller  
Anti-Icer Pump



Eclipse B-3 Air Pump  
(engine driven)

## U.S. Education Office Sees Rising Demand for Aero Courses

Rising demand for vocational courses in aeronautics at schools and colleges is indicated in a study made public by Dr. John W. Studebaker, Commissioner of the U. S. Office of Education. While 85 universities now offer aeronautical engineering courses, recent developments in the aircraft industry and interest in current military aviation expansion program have created much enthusiasm for such training among students in secondary schools and junior colleges, Dr. Studebaker said. Reports from various sections of the country show growing activity in mechanics-training courses, in meteorology, aircraft design, radio and related subjects.

Urging the schools of the country to encourage student participation in the national Air Progress celebration, Sept. 11-24, as a graphic method for impressing the youth with the importance of aviation to the prosperity and safety of the nation, Dr. Studebaker declared: "Preliminary study of aviation in the schools is of great value. It is the young people who must eventually assume leadership in this important field of transportation and national defense; who must be the future engineers, designers, manufacturers, pilots, mechanics; and who must be the future patrons of aviation."

## PFA Will Submit 4 CAR Changes to CAA

The Private Fliers Association will submit shortly four proposed changes in civil air regulations to the CAA. In the association bulletin these proposed changes are:

1. Elimination of weight class ratings for private certificates.
2. Changing the spin test because it calls for maneuvers which some planes cannot be made to do, and substituting the following: a demonstration of ability to recognize and recover from incipient stalls or spins, power on and power off, from normal maneuvers.
3. Simplify renewal of certificates by making possible completion of and mailing of a perforated stub of pilot certificate. On alternate years a doctor's affidavit would be completed.
4. To simplify regulation now calling for a 90-day wait in event a pilot has flunked his test for certificate. PFA urges a 30-day wait for a new test.

## Cal. Endurance Attempt Fails; Two in Wyoming Plan Flight

Troy Colboch and Jerry Kelley, Santa Ana, Cal., flyers, were forced down on Sept. 6 from a lightplane endurance attempt after 8 days, 8 hrs., 55 min. in the air. Because of desert winds and strong rain storms their ground crew was unable to make contact with the ship and the crew landed with only five minutes' fuel supply remaining. They were shooting at the 14-day 7-hr. record established by Hunter and Humphrey Moody of Springfield, Ill., in August.

Meanwhile John A. Johnson and Eddie Milecki prepared to attempt an endurance flight at Worland, Wyo., late in October in a 60-hp. monoplane of unknown make.

## 8 Wacos Delivered to CAA



ments, flares and retractable lights for night landing. They are fitted with 330-hp. Jacobs engines and Hamilton Standard propellers. Five of the planes will be used principally for transportation of Air Safety Board personnel, one will be used by the airport section, one by the air carrier inspection section and one by the airways engineering division of the CAA. All are expected to be based in Washington. The Authority obtained the Wacos at a unit price of \$13,166, with a trade-in allowance on two planes.

## Round One! Brinkerhoff and Morris Battle Over Flyers' Rights (If Any)

How far should the federal government go in regulating against the reckless flyer? Two national associations are battling out this question in their September bulletins.

It all started in the bulletin of the Private Fliers Association edited by Bill Brinkerhoff who led with a stiff right in writing on minimum regulation consistent with public safety by stating: "We, as non-commercial fliers, are happy to be wisely regulated in the interest of safety for other people but we intend to reserve to ourselves THE RIGHT (his caps) to break our necks in our own way so long as no one on the ground or in other ships is endangered. . . . As a principle, a solo private pilot should not be forbidden by law to loop at 500 feet off an airway over an uninhabited forest."

Evidently that was too much for Charles L. "Les" Morris, commissioner of aeronautics for Connecticut and president of the National Association of State Aviation Officials. Because in the NASAO bulletin dated Sept. 12 Mr. Morris, prepared for battle, stated that Mr. Brinkerhoff's proclamation of liberty "has our hair standing on end."

"He appears to be seeking complete abrogation of laws and regulations governing private flying," Mr. Morris wrote: "on the principle, as he puts it, that 'a solo private pilot should not be forbidden by law to loop at 500 feet, off an airway over an uninhabited forest.' If this principle is ever realized, we urge that PFA form its own accident-investigation division, locating the accidents and reporting on them, to save the weary limbs of state and federal men."

"Or perhaps PFA feels that a private pilot is no responsibility of anyone but the pilot—and therefore should not be investigated at all. But after all, there are laws governing the insane, and even prohibiting suicide (if you can stop it)—so the life of every citizen is admitted to be the responsibility of government. Certainly, one fatal crash

Waco Aircraft Co., Troy, O., on Sept. 19 announced it had delivered these eight model C cabin planes to the CAA in Washington. The five-place ships are equipped with two-way radio, blind landing instru-

—even of a private pilot flying solo over the wilderness—does not help the cause of private or commercial aviation."

Brinkerhoff made it clear that he did not favor abrogation of regulations protecting the safety of the public.

## Michigan Constructing Sixteen Seaplane Bases

Municipal governing bodies in Michigan have allocated funds for purchase of materials for construction of seaplane bases at the following locations: Bear Lake, St. Ignace, Houghton Lake, Escanaba, Lake Goebel, Detroit, Topinabee, Beulah, Cheboygan, East Tawas, Alpena, Marquette, Menominee, Indian Lake, Sturgis and Champion.

The base at Beulah has been completed and was dedicated early in September. It is expected that at least 30 bases will be installed during the present construction season. Construction is done by the NYA, the only responsibility on the part of local governmental units being that they purchase materials for the bases, cost of which is approximately \$100 per base.

## Aero Groups

Harrisburg, Pa.—The Pilot's Reserve Association of Harrisburg was formed here recently at an organization meeting attended by more than 75 persons. R. E. Kincart is president and Paul C. Holden is business mgr. Forty-two enrolled for ground school courses; 21 for flight training. Three Piper Cubs were ordered for delivery Oct. 1. Kincart said the group aims to popularize sport flying and has no military tie-up. Instructors are Rupert Loehner, chief pilot; Charles Adams and John McFarland, flight and ground school instructors.

Wayne, Mich.—The Stinaire Flying Club, made up of 30 employees of Stinson Aircraft Div., began flying instruction recently using a plane purchased for the club. A 105, used for experimental purposes at the plant, was expected to be available to the club soon. Albert Schramm, Stinson chief test pilot, is the club's instructor. Officers are: Willard Perfield, pres.; Frank Little, v. p.; Bernard Simons, secy.; Thomas Chadwick, treas.

## 4 Mfrs. Name 9 New Dealers, Distributors

New dealers and distributors appointed by various aircraft manufacturers within the last 15 days are listed among the following:

Cessna Aircraft Co., Wichita, Kan., has appointed Peterson Flying Service, Municipal Airport, Wichita, as Kansas distributor for the company. David G. Peterson, owner and mgr., has taken delivery on a new Airmaster for demonstrations.

Luscombe Airplane Corp., West Trenton, N. J., has appointed J. L. Wells, Avon Park, Fla.; Robert C. Hunton, Albuquerque, N. M.; R. C. Davis, Salt Lake City, Utah, and Page Airways, Rochester, N. Y., as distributors for Luscombes.

Monocoupe Corp., Robertson, Mo., announced appointment of Sam Wise, Kankakee, Ill., as a dealer. Wise recently took delivery on a new 90-A model. New planes have been delivered to Claris B. Smith, Indianapolis, who has acquired a dealership for Marion County, Ind., and James Michaels, Houston, Tex.

Rearwin Aircraft & Engines Inc., Kansas City, Kan., named Charles Wood, Clay Center, Kan., and Air Activities Inc., Houston, Tex., as new Rearwin distributors.

## NEGROES ORGANIZE National Airmen's Association of America Holds First Meeting in Chicago

In a conference said to be the first of its kind ever held by Negro flyers, the National Airmen's Association of America was organized early in September at a meeting held in Chicago. Dr. A. Porter Davis, Kansas City, Kan., flyer, was recipient of the Dwight H. Green trophy for "the greatest contribution to aviation among Negroes."

Officers of the new organization are: President—Cornelius R. Coffee, Chicago; vice-presidents—Clinton D. Walker, Hamtramck, Mich.; George Allen, Latrobe, Pa.; Dr. A. Porter Davis, Kansas City, Kan.; Perry H. Young, Loraine, O.; Joseph Grider, West Virginia State College; Dale White, Chicago; Pickens Black, Auervergne, Ark.; secretary—Willa Brown, Chicago; asst. secretaries—Abram D. Jackson, Erie, Pa.; Dr. Coburn E. Waldon, Flint, Mich.; treasurer—Charles Johnson, Chicago; sergeant-at-arms—Grover C. Nash, Chicago; publicity manager—Chauncey Spencer, Chicago; historian—Edward Johnson, Chicago; adviser—Enoch P. Waters, Chicago.

The organization's next meeting will be in Kansas City.

## Williams With Moseley

Lieut. Comdr. Clarence S. Williams, U. S. N. R., is back at his old job of teaching navigation, this time to 400 young Army pilots at Major C. C. Moseley's Curtiss-Wright Technical Institute at Glendale, Calif. Comdr. Williams' aeronautical charts have guided such airmen as Roscoe Turner, the late Amelia Earhart, Art Goebel, Jimmy Halzlip, and Capt. Dick Merrill.

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## Thomas Flying Service

BLAIRSVILLE, PENNSYLVANIA

August 18, 1939

Mr. R. E. Palmer  
Aviation Manufacturing Corporation  
Lycoming Division  
Williamsport, Penna.

Dear Sir:

Several months ago I received a letter from you asking for my humble opinion on the Lycoming Fifty. At that time I was not in a very good position to tell you how I thought it compared to other light-plane engines that I have owned, because I had just taken delivery of a J-3 Cub equipped with your Lycoming engine.

After several months of hard use, I can truthfully say that it is the finest engine in its class for my money. I have flown ships with three other makes of fifty-horsepower engines. The Lycoming is tops.

From an economy standpoint it can't be beat. I have made several cross country trips in it, and find the fuel consumption more like a Forty than a Fifty engine. To date I have added only one quart of oil between changes. And as for the engine requiring attention, I find it practically takes care of itself.

I have several friends that fly from Bettie Airport in Pittsburgh, and they are equally enthusiastic about your product. Their Taylorcrafts are going all the time.

I expect to be in business for quite a few years, and I know that a Lycoming Engine will be used exclusively on the light planes that I operate.

Sincerely yours,

*Tommy Thomas*

Tommy Thomas

**FREE LITERATURE**—Illustrated folders on Lycoming light-plane engines may be obtained from all Taylorcraft, Cub and Aeronca dealers. Or write Department AM109, Lycoming Division, Aviation Manufacturing Corporation, Williamsport, Penna., U. S. A. Cable address: Aviatcor.

See the Lycoming Exhibit in the Aviation Building at the New York World's Fair

**B**ECAUSE of Lycoming's championship performance, convincingly demonstrated by establishing three world records so far this year, its amazing economy of operation and maintenance is often overlooked. Hundreds of light-plane owners agree with "Tommy" Thomas that the fuel consumption of their Lycoming 50-horsepower engines "is more like a forty than a fifty" and that a Lycoming "practically takes care of itself." You, too, may enjoy this unbeatable combination of championship performance and amazing economy when you get an Aeronca, Cub or Taylorcraft powered by Lycoming—the engine for civilian trainers and private ships.

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50 to 300 H.P.



# Engines

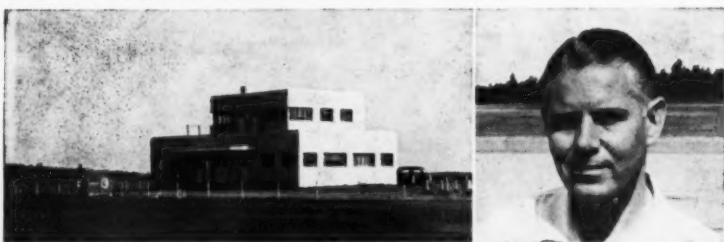
FOR MILITARY TRAINERS, PRIVATE AND COMMERCIAL AIRPLANES

## South Carolina Aviation

(Photos taken by a staff member on a flying tour of South Carolina, Sept. 15-17).



On the left we have Charles Robertson of the Hawthorne Flying Service at Charleston, S. C., while on the right is Bob Turner whose Palmetto Air School makes things hum at Spartanburg.



Although a year old, the administration building at Greenville, S. C., is a bright spot in that area, modernistic in design, and quartering Eastern Air Lines and Ike Jones of Southern Airways Inc. On right is North Carolinian Henry Rafus who runs Rafus Flying Service at Greensboro, N. C., a swell spot to stop on any trip to the south. Rafus has built a fine reputation in those parts.



Dr. George Bunch (left) is a member of the South Carolina Aeronautics Commission, genuine friend of aviation, a swell all-around guy who likes to fly. Photo taken in the Columbia, S. C. hangar. On right are Harry King (left) the station manager for Delta Air Lines at Columbia, and Ralph E. Adams, Delta co-pilot now on leave to fly for M. O. Dunning.



On left is O. T. Hines, the CAA airways operator for Columbia, S. C., recently transferred from Tennessee. In center is E. F. Markwood, assistant to Dex Martin, South Carolina's aeronautics director. On right is Bob David, president of Citadel Aero Club of 75 members, all of whom are students at the Citadel, Charleston. They fly with Beverly Howard's Hawthorne Flying Service. It's probably the biggest flying group of its kind in the nation and Bob David is the man chiefly responsible. He's a top football star also.



The three gentlemen above hold down Eastern Air Lines' activities at Spartanburg. Left to right, W. R. Bomar, J. E. Simkins who is station manager, and D. S. Chappell. On right is W. E. Beach, Eastern's station manager at Charleston.

## Building Private Planes for Need, Not Competitive Price, is Urged

South Carolina Pilots Told Airlines, Bus Companies and Railroads Should Use Light Planes for Traffic and Inspection Work; 45 Ships at 10th S. C. Breakfast

Belief that the private airplane market will not be fully tapped until light airplanes are built to the need of the customer instead of for a competitive price was expressed by Wayne W. Parrish, editor of AMERICAN AVIATION, in a talk Sept. 17 before 125 pilots and guests of South Carolina assembled for the 10th annual Sunday morning breakfast gathering at Camden, S. C.

Forty-five private airplanes flew to Camden for the affair, tenth in a series of state-wide gatherings for the state's pilots. The South Carolina Flyers Club was formed at the Camden meeting.

"Everyone in aviation has been talking for years about the great private flying boom that is to come," Mr. Parrish said. "During the past year or two private flying has really been growing but we all know that so far only a small fraction of our national population has become actively interested in flying the airways. Private flying is still very limited and most of the plans that have been discussed for promotion of private flying stop when the talking stops. We've all done a lot of talking but so little in actually 'selling' the airplane to the public. Perhaps we ought to think more of offering the kind of aviation it wants and has need for instead of trying to persuade it to accept the kind of aviation we think it ought to have."

"The private-owner airplane has two uses, one for pleasure and one for practical utility in business transportation. Both are great potential fields which so far have been inadequately explored."

"If the private-owner airplane manufacturers only equalled the sales of small pleasure boats the possibilities for expansion are enormous. There are about 1,500,000 pleasure boats in the United States, not including costly yachts. There are only about 12,000 civil airplanes and yet the private airplane can offer far more pleasure than a boat which is restricted to waterways. The airplane has an unlimited highway in every direction; the boat must keep within channels. Furthermore, the boat can be used only by people living near water, whereas the airplane can be used by everyone, regardless of the geographical situation. The air ocean is limitless."

"When one considers the investment the public has made in boating, you can begin to get an idea of the future for the airplane, considering pleasure flying alone. Here is a challenge to the lightplane manufacturing industry."

"Then consider the airplane in relation to business. Too many of us have looked upon the airplane as a vehicle chiefly for pleasure flying, something of a sport for the adventurous. But the real value of the airplane comes as a vehicle for business transportation—a time-saver for commerce. It has a value to men in transportation, in manufacturing, in mining, in farming, in stock raising, in selling. Here is a market many times greater than the pleasure-plane market."

The speaker praised the local operators for struggling against heavy odds and who have taken it on the chin to survive a pioneering era, and also praised the manufacturers who have managed to survive the developmental period in which many companies passed out of existence with heavy financial losses.

"Light airplanes today are being built

to a competitive price and perhaps this is not the right approach to more sales. Perhaps private-owner airplanes should be built to a need—built to satisfy definite wants, built to satisfy customers who have use for airplanes. The automobiles are today built to a price, but only because originally they were built to meet a need. I believe it will be a long time before the airplane industry should emphasize competitive price reduction. Competitive prices usually become a major factor when the market is developed; today the light airplane market is so small that competitive price building will not greatly enlarge sales possibilities.

"The primary object today should be to build airplanes to develop a market, and the development of a market comes by offering people something they have use for. Automobile salesmen today don't have to sell the automobile as such because it is an accepted vehicle; auto salesmen try to sell individual models. Today we must interest a great many types of people in the airplane as a vehicle of everyday use for a number of purposes."

"Someone is going to sell a million light airplanes to Americans within the next 10 years. It is going to take someone with the imagination and drive of a Henry Ford. I don't know and you don't know who is going to step out into this field but I have confidence that my prediction will come true and you will see tens of thousands of airplanes a decade from now where you now see a few hundred. Ten years ago the science of airplane building—the engineering phases—were not ready for a public market. Today our factories can build almost any type of private-owner aircraft that can be desired. The problem of the future will be production at lowering costs. The automobile builders have pointed the way."

"What is needed today is breadth of vision on the part of those who have undertaken private flying as a business. The public will accept the airplane for individual use only to the extent that the airplane is of practical use. As long as the public has the idea that you have to be a mechanic and a genius to operate an airplane, so will private flying be largely restricted to hopping around the local airports."

"But when the public begins to realize that the private airplane is far superior to an automobile for getting places, and is not difficult to handle and operate, and costs no more—or even less—than an automobile to maintain, then you will be creating a market of great potentialities. Price is, of course, a factor, but price is no obstacle when the public wants something."

"Why, for example, are not the railroads using light airplanes to get their division officials around faster? Why are bus lines not using light airplanes for inspectors and executives who must keep the system operating smoothly and profitably? Why are not the airlines using light airplanes in traffic solicitation within a radius of 100 miles of cities on airline stops? Why do so few mining operators own airplanes? Why do so few farm machinery salesmen use light planes? Why do so few livestock and wheat growers own light airplanes? Why do so few people operating fleets of fishing boats own airplanes to spot

(Turn to page 26, col. 4)



# South Carolinians Fly to a Breakfast

(Forty-five private airplanes carrying 125 pilots and guests flew to Camden, S. C., Sunday morning, Sept. 17, for their 10th aerial breakfast. The camera highlights the affair which marked the formation of the South Carolina Flyers Club. All except the first two are staff photos).



View of the field at Camden showing a few of the 45 planes.

On right is a view of the presidents of various local aero clubs who formed the South Carolina Flyers Club. They are, left to right, seated: E. F. Markwood Jr., Columbia, secretary and assistant state aeronautics director; J. G. Brannon, Sumter; Frank "Skeets" Culler of Orangeburg; Ed Seymour of Greenwood; Beverly

Kittrell of Columbia, and Dexter C. Martin, S. C. aeronautics director. Standing are left to right: C. E. Barfield of Hartsville; W. W. Watson of Columbia, chairman of the board; T. A. Mott of Greenville; Robert F. Turner of Spartanburg; R. Courtney of Aiken; and E. A. Williams of North Augusta. (Photos courtesy of The Journal and Carolina Spartan, Spartanburg.)



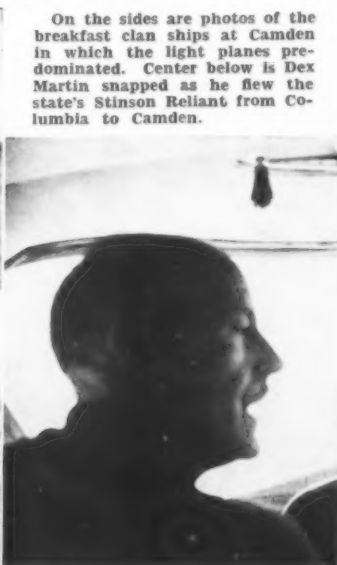
Left to right, the gentlemen in this row are Howard S. Behr, fixed base operator at Anderson, S. C.; Ike Jones, vice president of Southern Airways at Greenville who has more than 100 students on Greenville's fine new airport; Dr. W. P. Price, well known CAA medical examiner of Charleston who does a lot of flying out of Martin Jennson's James Island Airport at Charleston; State Senator

James Mozingo III of Darlington who has taken up flying and is one of aviation's legislative friends in the state (and a swell speaker); and no less a personage than Frank Mara of Stinson Aircraft whose Stinson 105 was the only out-of-state ship on the field. Mara was visiting Ike Jones at Greenville.



At Orangeburg, S. C., the camera spotted Frank "Skeets" Culler, who operates the Orangeburg Flying Service and is doing an unusually fine job in a small community. Culler is standing in front of a new 50-hp. Porterfield. In center is the "one and only" Beverly Howard, attraction at the National Air Races this

year and operator of Hawthorne Flying Service at Charleston. He's standing in front of his Cub that did all the tricks at Cleveland. On right is Marvin Heubel, who operates the Columbia, S. C., branch of Hawthorne Flying Service.



On the sides are photos of the breakfast clan ships at Camden in which the light planes predominated. Center below is Dex Martin snapped as he flew the state's Stinson Reliant from Columbia to Camden.

# AMERICAN AVIATION

The Independent Voice of American Aeronautics  
Published the 1st and 15th of each month

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Editorial and business office, Earle Bldg., Washington, D. C. Published by American Aviation Associates Inc.; Wayne W. Parrish, president; Albert H. Stackpole, vice president, Edward J. Stackpole Jr., secretary-treasurer, 104 Telegraph Bldg., Harrisburg, Pa.  
Address all correspondence to AMERICAN AVIATION, Earle Bldg., Washington, D. C.  
Subscription rates—\$3.00 per year, 15¢ per copy; Canada and Pan American countries—\$3.50; all other foreign—\$4.00.  
Entered as second-class matter at the Post Office at Washington, D. C., with additional entry at Harrisburg, Pa.

AMERICAN AVIATION DAILY: Published six days each week except holidays, dispatched by air mail. A confidential news letter covering daily developments in aviation and the national capital. \$15 per month, \$180 per year. Service Bureau available to all subscribers. Special telephone District 1681.

## Fortnightly Review

(Continued from page 1)

N. A. A. a free, energetic, nation-wide representative organization to voice lay sentiment for the advance of aviation, we shall laud it to the skies. On the other hand if a small clique of schemers plan only to change the window dressing and employ a man experienced in procurement procedure to be used in furthering their selfish plans under the false cloak of a once respected nation-wide organization—well, gentlemen, think carefully.

## Aviation 'Sit-down'?

MR. PAUL V. BETTERS, as reported in the last issue, has urged what amounts to a "sit-down" strike of municipalities against the expenditure of any more local funds on airport development until the federal government determines upon a permanent program of federal aid. Mr. Betters is executive director of the United States Conference of Mayors and as such is on the receiving end of appeals by cities for federal aid. It is Mr. Betters' job to see that municipalities get as big a share of federal funds as possible and to this end it can be said in all justice that Mr. Betters has been a most effective executive director.

While admitting that Mr. Betters' appeal for a "sit-down" will doubtless have its proper effect in the proper places, we do not believe that the majority of American towns and cities will follow his suggestion. We get around the country frequently and find definite interest in aviation development and airports to aid that development. So long as humans govern cities, there will be competition among communities and the competitive spirit calls for municipal projects that make one proud of his city. The majority of taxpayers, by and large, will vote money to put his city ahead and he is not interested in waiting until a paternalistic federal government gets around to giving his city only so much improvement as that distant federal government decides his little community is entitled to receive.

One big illustration is Newark, N. J. The City of Newark with foresight and at great cost very early provided the New York metropolitan area with a splendid airport. Newark got valuable commerce and civic advertising as the eastern terminal of many important transcontinental airlines. Did New York City follow Mr. Betters' advice and "sit-down" to wait until the federal government came along to give it something equal to Newark's airport? Indeed not. It was good politics to tickle the vanity of New Yorkers and Mayor LaGuardia went forth to out-do Newark regardless of cost. To date it is said that New York has spent about \$16,000,000 of local tax money and much more than that in federal WPA money to satisfy civic pride as an important air terminal.

Mayor LaGuardia is said to be an important sponsor of Paul Betters and the U. S. Conference of Mayors that hires Betters. But LaGuardia does not spend the way Betters talks. Nor will many other growing cities.

## Nuts to Crack

TWO organizations, feeling the need of proper designation for insane, careless, thoughtless, idiotic or what-have-you flyers, have coined words which are anything but flattering to the kind of crazy pilot who too frequently makes headlines.

The National Safety Council Inc. has applied the term "Aero Nut"

to this type of flyer. Equally eulogistic is the "Aircrew," courtesy Private Flyers Association.

Most crack-brained aviators suffer from acute attacks of aeromonia, a ubiquitous disease that knows no geographical limitation.

The Aircrew's and Aero Nut's position in society is similar to that of the "Screw Driver's," of automotive fame.

## Mobile Storage

ON SEVERAL occasions we have expressed the idea that railroads should stick to the freight business.

Railroad freight moves at a disgracefully slow speed despite recent efforts to keep it moving faster. Freight trains carrying valuable cargo are side-tracked to permit passage of admittedly unprofitable "streamlined" passenger trains.

The Association of American Railroads recently carried full page advertisements in national magazines on the theme that "Mass transportation means modern transportation." The advertising copy stated that over the "super-highways" of steel some 1,760,000 freight cars travel at an average total of 13,000 miles per car each year.

This means that the average freight car travels at a "speed" of 1.5 miles per hour during one year.

In the last issue of this magazine Eastern Air Lines advertised the fact that its fleet of 25 Silverliners fly an aggregate of 31,000 miles daily which means that one airplane averages 52 miles per hour for an entire year, or 452,600 miles.

It would seem that with a ratio of 50 to 1½, which is a ratio of keeping equipment moving day and night every day in the year, the railroads would devote more attention to serving the public adequately with the one profitable commodity they have to offer—carriage of freight. If one freight car moves only 13,000 miles a year it isn't transportation, as a friend of ours remarked, it is mobile storage.

## Aero Bookshelf

PRACTICAL MATHEMATICS OF AVIATION by A. E. Downer. Published by Pitman Publishing Corp., New York; 110 pp.; \$1.

Containing sections of miscellaneous problems, answers and tables, this book attempts to apply the fundamentals of mathematics in the field of aeronautics. It is pointed out that applications of principles and processes are of major importance. Some of the chapter headings are: Arithmetic review, equations, formulas, graphs; ratio, proportion and

percentage; the right triangle and simple mathematics. The author is instructor in mathematics at Cass Technical High School, Detroit.

## Obituary

DONALD R. HUSTED, 45, aeronautical radio specialist of Western Electric Co., died of heart disease at Glen Cove, L. I., Aug. 18. For a time he was research specialist for Curtiss Engineering Co. at Garden City, L. I. He joined Western Electric in 1931 to aid that organization in the application of radio communication to commercial aircraft.  
CARL A. MIDDLETON, 24, an employee of Beech Aircraft Corp., Wichita, Kan., and a test pilot and stunt flyer, died Aug. 30 at Wichita in a plane crash.

## Flight

Flight is a poem:

A harmony of matter, time and space—

A blending tone

Where ties of earth and sky all interlace . . .

The years of studied research, and the sweat of dogged toil,  
The fusion of the breach between the ceiling and the soil;  
The scientific logic—the illogical demand  
On nature's laws and precepts. God and man work hand in hand.

Flight is a boast:

And yet it is an humble boast withal—

We tremble most

The while exultant platitudes we call . . .

A boast of things accomplished, of a prophecy fulfilled,  
Of fancy taking form in fact; of skeptic cynics stilled;  
Of man once more triumphant—of labor's recompense;  
A boast with bated breath hung slimly on omnipotence.

Flight is a prayer:

A prayer that spreads its boundless wings and soars

Through purer air;

Nor knows the stifling bans that earth deplores . . .

A prayer that has no utterance—no pattern—no design—  
Wherein thanksgiving—supplication—wordlessly combine;  
A prayer that starts nor ends not—that knows no day—no night;  
No wavering—no faltering—no turning backward—FLIGHT!

HELEN WARD GALL  
(Mrs. Ronald S. Gall)

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## Folks Worth Meeting—

**L. C. ELLIOTT**, regional supervisor of the CAA's 4th region at Ft. Worth, as early as 1916-17, while in high school, expressed an interest in aviation, for it was at that time that he constructed a small airplane, a project



Elliott

which was abandoned before he completed high school in 1920. For the next four years he served in the air service unit of the Reserve Officers Training Corps at Texas A & M College. On June 15, 1924, Elliott was appointed 2d lieutenant in the Air Corps and entered on duty at Brooks Field, San Antonio, completing the primary course in the spring of 1925. He was transferred to Kelly Field for advanced training and was graduated in Sept. 1925 as a pilot, pursuit rating. In the following month he was

assigned to the 1st pursuit group, Selfridge Field, Mich., and a year later was winner of the Mitchell Trophy Race and placed second in the free-for-all pursuit race at the National Air Races, Philadelphia. In June of the following year, Elliott was transferred from Selfridge to Brooks Field for duty as instructor in the primary flying school.

He resigned his commission in the Army in Mar. 1928 and accepted a position as airways extension superintendent of the airways division, aeronautics branch, Dept. of Commerce. In this position he participated in surveying of the Birmingham-Atlanta airway, surveyed the Cincinnati-Chicago airway and made extensive flights inspecting airways. Later he surveyed airways from Wichita to Los Angeles and Brownsville-Houston and flight checked various southwestern airways. Other airway surveys included those of San Diego-El Paso, Los Angeles-Amarillo, northern transcontinental airway and Dallas-Louisville.

In Jan. 1933 Elliott's designation was changed from airways extension superintendent to senior airplane pilot, after which he was transferred to the Bureau of Air Commerce, Dept. of Commerce. He spent more time flight checking airways and radio range stations and in Nov. 1934 was promoted to airways engineer in charge of the fourth airways district at Ft. Worth.

Continuing in that position until Dec. 1935, his title was then changed from airways engineer to district manager, a post he held until mid-1938 when he was promoted to regional supervisor of the district. On Aug. 22, 1938, he was transferred to the CAA where he continues as regional supervisor of the fourth region at Ft. Worth.

## Pro, Con and Otherwise

### Pro Frye

Sept. 18, 1939

To the Editor:

I notice in your Sept. 15 issue that Braniff Airways is taking a different slant about featuring its president. (P. 12).

After all, in my opinion, Jack Frye should be, and is considered one of the pioneers in commercial aviation regardless of what opposite stands the two airlines have on "Flying Executives." I happen to know when Jack Frye started to fly, and when he started his first airline venture, and I don't know of any airline that has a better or more capable personnel than TWA or that anything that you or anyone else could read on the "Flying President" advertisement is misleading.

I also think the barnstorming stage had a helluva lot to do with getting people air-minded, and getting the very first landing fields established throughout the country. I am writing from experience and I have watched the progress of commercial aviation from its very infancy. If our present CAA would press men into service like Jack Frye and many others that have actual experience and grew up with the game, much more could and would be accomplished and the advancement of aviation would march right along.

I happen to be the old trail blazer that established the first landing fields between Los Angeles and Salt Lake City and the first landing fields between Los Angeles and Albuquerque during 1920-21. In don't mean to pan you about publishing the article that got in my craw, but after all, Jack Frye is a flying president and a good one.

Bob Hawler,  
Arlington, Va.

(We weren't taking sides; only reporting—Ed.).

## Orders Rushed

(Continued from page 1)

It has been revealed that United Air Lines intends soon to order 12 Douglas DC-3's for its trans-continental route. No official announcement of negotiations has been made.

Pennsylvania-Central Airlines is believed to have ordered six DC-3's and delivery of the first is expected in October. Announcement of the order was being withheld by PCA until results of the company's pending rate decision are announced by the CAA. It is known that six ships are being built by Douglas for PCA, although the line has not signed the contract.

Northwest Airlines on Sept. 13 announced through Croil Hunter, president, that it had purchased four more DC-3's, three of which will be delivered early in January, the fourth tentatively in the spring. Purchase involves an expenditure of approximately \$600,000 (unit price, \$150,000). New transports will augment the present fleet of seven Douglas ships now in service.

Eastern Air Lines has placed an order for three Douglas DST sleeper planes, Capt. E. V. Rickenbacker, president & general manager, announced on Sept. 18. Costing \$366,000 (unit price, \$122,000), the sleeper planes will accommodate 14 passengers. They will take care of increasing demand for direct passenger service without change

### Shirt Tails

Although wives and mothers may not think it's such a good idea, students who solo at Spartanburg Airport, S. C., now have to cut off a piece of their shirt-tail and nail it up on the hangar wall. Bob Turner, president of Palmetto Air School on the airport, proudly points out to visitors about two score shirt-tails nailed up on the wall, all belonging to members of the Shirt-Tail Solo Club.

of plane between New York and Brownsville, it was said.

American's new DC-3's will be powered by 1,100-hp. Wright Cyclones. The purchase is the second large order to be placed by AA with Douglas Aircraft Co. Inc. in 12 months. Last fall, the line ordered five DC-3's, the order later being increased to 10. These ships have been delivered and are now in service on the line's routes.

American now operates 56 Douglas planes, including 10 Flagship Sky-sleepers, 33 Flagship Clubplanes and 13 DC-2 day planes. The 20 new ships will give AA a total of 76 transports.

Chicago & Southern Air Lines' six DC-3's, reported in last issue, will be equipped with Hamilton Standard quick feathering propellers instead of Curtiss Electric constant speed as previously announced.

Number of new transports ordered by U. S. airlines from Douglas Aircraft Co. Inc. and Lockheed Aircraft Corp. during the last month, and officially announced by the companies concerned, amounts to a total of 40, representing an expenditure of approximately \$4,826,000.



## THE BEST LOCATION IN NEW YORK

Persons accustomed to the luxury and comfort of air travel are attracted by a certain difference in the atmosphere and service of the . . .

## HOTEL NEW WESTON

Madison Ave.  
at 50th Street

Single \$5.00 Double \$8.00  
Suites \$12.00

### STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912, OF AMERICAN AVIATION, published semi-monthly at Harrisburg, Pennsylvania, for October 1, 1939.

Before me, a Notary Public in and for the District of Columbia, personally appeared John T. Shannon, who, having been duly sworn according to law, deposes and says that he is the business manager of AMERICAN AVIATION Magazine and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption required by the Act of August 24, 1912, embodied in section 411, Postal Laws and Regulations, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, American Aviation Associates, Inc., 104 Telegraph Building, Harrisburg, Pennsylvania; Editor, Wayne W. Parrish, 911 Earle Building, Washington, D. C.; Managing Editor, Eric Bramley, 911 Earle Building, Washington, D. C.; Business Manager, John T. Shannon, 911 Earle Building, Washington, D. C.

2. That the owners are: American Aviation Associates, Inc., 104 Telegraph Building, Harrisburg, Pennsylvania; Edward J. Stackpole, Jr., 104 Telegraph Building, Harrisburg, Pa.; Albert H. Stackpole, 104 Telegraph Building, Harrisburg, Pa.; Wayne W. Parrish, 911 Earle Building, Washington, D. C.; Frances Knight Parrish, 911 Earle Building, Washington, D. C.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None.

4. That the two paragraphs next above, giving the names of the owners, stockholders and security holders, if any contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the two said paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest, direct or indirect, in the said stock, bonds, or other securities than as so stated by him.

(Signed) JOHN T. SHANNON.  
Sworn to and subscribed before me this 12th day of September, 1939.

(Signed) Anna A. Hammond,  
Notary Public,  
District of Columbia.  
(My Commission Expires June 1, 1943)

## Enlarging Lindbergh Field

A municipal expenditure of \$750,000 by San Diego, Cal., is creating an enlarged Lindbergh field of 413-acres, instead of a 60-acre airport as originally planned. Joe Brennan, port director, has revealed. As dredging operations in the bay proceed, the present e/w 2,500-ft. runway is being paved to make a take-off strip a mile long. Brennan said, pointing out that the runway will be 150 ft. wide, with a 50-ft. white concrete strip down the center to serve as a landing guide in mass arrivals of airplanes.

## NEW GOODRICH PRES.

John Lyon Collyer Succeeds S. B. Robertson as Head of Rubber Company

The board of directors of the B. F. Goodrich Co. has accepted the resignation of S. B. Robertson as president and has elected John Lyon Collyer as his successor, announcement was made Sept. 13, by David M. Goodrich, chairman of the board.

"It was with great regret that the board accepted the resignation of S. B. Robertson, who is retiring as president of the company, after 20 years of valued service," a statement given out by Mr. Goodrich said.

Mr. Collyer since 1937 has been joint managing director of Dunlop Rubber Co. Ltd., Ft. Dunlop, Eng., which position he is resigning to accept the presidency of the Goodrich company.



Collyer

## THE C.A.A. RECORD

(Applications, Hearings, Dockets)

### APPLICATIONS

#### Trans-Canada Asks Toronto-Buffalo

Trans-Canada Air Lines on Sept. 21 filed application with the CAA for a foreign air carrier permit between Toronto, Ont., and Buffalo, N. Y. Pennsylvania-Central Airlines on Sept. 12 asked a certificate on the same route.

#### Eastern Asks to Intervene

Eastern Air Lines on Sept. 20 asked the CAA for permission to intervene in the new route hearing of Trans-Southern Airlines and Braniff Airways, scheduled for Oct. 2, involving Amarillo, Oklahoma City, Memphis and Atlanta. Eastern stated that it has a substantial interest in the proceeding because if either of the applicants is awarded a certificate, traffic will be diverted from both AM40, Atlanta-Tampa, Tallahassee-Memphis, and AM10, Chicago-Atlanta-Jacksonville.

#### Mid-Continent Asks New Route

Mid-Continent Airlines on Sept. 23 filed application for a certificate on a route between Kansas City and New Orleans via Joplin, Bartlesville, Tulsa, Muskogee, Ft. Smith, Texarkana, Shreveport, Alexandria, and Baton Rouge. Braniff Airways and Kansas City Southern Transport also have filed application for this route.

#### Fayetteville Petitions to Intervene

The city of Fayetteville, Ark., on Sept. 23 petitioned the CAA for leave to intervene in the Kansas City Southern Transport application for a Kansas City-New Orleans certificate, on which hearing is to be held Nov. 8.

#### Braniff Wants Rate Case Reopened

Braniff Airways on Sept. 18 appeared before the CAA in oral argument, urging that its rate case be reopened or reconsidered. Story on page 21.

#### Routes in Puerto Rico Asked

Application was received Sept. 21 by the CAA from Aerovías Nacionales Puerto Rico Inc., for permission to operate mail, passenger and express service as follows: (1) (morning) San Juan to Mayaguez, Ponce, back to San Juan; (afternoon) San Juan to Ponce, Mayaguez, back to San Juan; (2) San Juan to Vieques, St. Thomas, St. Croix, St. Thomas, back to San Juan.

### HEARINGS

#### Houston-Louisville Hearing Continues

Proceeding continues in Washington over applications of Braniff Airways, Chicago & Southern Air Lines, and Eastern Air Lines, for Houston-Memphis-Louisville service. Hearing opened Sept. 6. Story on page 22.

#### Tri-State Aviation Hearing

Hearing was held Sept. 21 before CAA Examiner R. J. Bartoo on the application of Tri-State Aviation Corp. for a "grandfather" certificate to conduct express service to Pittsburgh, Morgantown, Wheeling, Parkersburg, Charleston, Beckley, Clarksburg, Elkins, Martinsburg, Cumberland and Baltimore. Dr. L. S. Adams, president of the company, testified that Tri-State's authorized capital stock was 100,000 shares (\$1), but added that the stock has not been issued. If issued, 50% is to go to Dr. Adams for use of patents and services rendered, and 50% to Arthur Davis, for cash put into the company. Davis, it was testified, is president of Arma Engineering Co., Brooklyn, which manufactures precision instruments for the Navy. Richard du Pont, president of All American Aviation, has an option to acquire 40% of the Tri-State stock. Dr. Adams said. The major portion of Tri-State's express business comes from Joseph Horne's, Kaufmann's and Rosenbaum's, Pittsburgh department stores, and Montgomery Ward. Baltimore, Dr. Adams stated. If more than 30 packages a day are carried from a store, the rate charged is parcel post plus 6c; if less than 30, parcel post plus 10. Testimony regarding operations was given by Norman Rintoul, former Tri-State pilot, now employed by All American. Capt. J. E. Whitebeck, CAA air transport engineer, who investigated the company prior to the hearing, testified as to schedules, maintenance, etc.

### ORDERS

#### Pan Am's Pacific Mail Pay Boosted

The CAA on Sept. 14 released a rate decision granting Pan American Airways increased mail pay on the trans-Pacific route. Complete story on page 23.

#### Pan Am Interlocking Directorates Approved

Interlocking directorates involving Thomas Morgan, John M. Franklin, Artemus Gates and William Paley in connection with Pan American Airways Corp., PAA Inc., PAA (Del.), PAA (Nev.) and Pacific Alaska Airways (PAA) have been approved by the CAA.

#### Pan Am, Canadian Colonial Rate Investigation

A CAA order released Sept. 19 stated that the Authority is instituting an investigation into the air mail rates being paid Pan American Airways Inc., on FAMS, 6, 7, 8 and 10; Pan American-Grace on FAM9 and Uraba, Medellin & Central Airways (PAA) on part of FAMS. The investigation will determine whether the rates are fair and reasonable and if not, the Authority will set such rates. Similar procedure is to be followed in the case of Canadian Colonial Airways on its Montreal route.

#### CAA Refuses to Consolidate PAA Hearings

The CAA on Sept. 23 announced that it had denied an application of Pan American Airways to have its certificate and rate cases involving the proposed route to New Zealand heard at the same time. The Authority pointed out that the certificate case "involves several questions that must be decided upon before it will be practicable to hold public hearing upon the petition of Pan American for the rate."

#### CAA Estimates WAE Rate Increase

Following publication in AMERICAN AVIATION Sept. 1 of Post Office estimates as to the probable increases in Western Air Express mail pay as a result of the recent rate boosts granted the company, the CAA has indicated that its estimates are substantially lower. P O figures, based on present mileages, showed that WAE would receive \$59,000 more per yr. on AM13, Salt Lake City-San Diego, and \$70,000 more on AM19, Salt Lake-Great Falls. "Based on direct airport-to-airport mileages, which are approximately 9% less than the prior average authorized mileage flown, it is estimated that total mail payments for the fiscal year 1940 will amount to approximately \$787,000, as compared to an estimated \$756,700 under the prior rates, or an increase of \$30,300, of which increase approximately \$2,900 will be realized on route 13 and \$27,400 on route 19," the CAA states.

### Calendar of Hearings

Oct. 2—Trans-Southern Airlines, Braniff Airways, on new routes serving Amarillo, Oklahoma City, Memphis and Atlanta. Raleigh Hotel, Washington.

Oct. 4—Pan American Airways (Nev.), new route from San Francisco to New Zealand. Carlton Hotel, Washington.

Oct. 10—American Export Airlines, for a trans-Atlantic route. Raleigh Hotel.

Oct. 18—Braniff Airways, American Airlines, on Braniff's petition for review of certain actions of Postmaster General and its complaint against "certain unfair practices and methods of competition by American." Room 5044, Dept. of Commerce.

Oct. 23—C. Coburn Darling, Canadian Colonial Airways, approval of interlocking directorates. Room 1851, Dept. of Commerce.

Oct. 26—LaMotte T. Cohu, TWA, approval of interlocking directorates. Room 1851, Dept. of Commerce.

Oct. 26—Delta Air Corp., Pennsylvania-Central Airlines, Southern Airlines, for new routes involving Cincinnati, Knoxville, Lexington, Atlanta, Chattanooga, Birmingham, Meridian, New Orleans, Augusta, Savannah, Brunswick, Pittsburgh, Charleston, W. V., Nashville, Memphis, Columbus, Dothan and Pensacola. Conference room B, Departmental Auditorium.

Oct. 30—American Airlines, Marquette Airlines, investigation of contracts between the companies. Room 5044, Dept. of Commerce.

Nov. 8—Braniff Airways, Kansas City Southern Transport, new routes, serving Kansas City, Joplin, Tulsa, Ft. Smith, Texarkana, Shreveport, Alexandria, Baton Rouge and New Orleans. Carlton Hotel.

Nov. 13—Pennsylvania-Central Airlines, new route serving Knoxville, Asheville, Hickory, Winston-Salem, Greensboro, Raleigh, Rocky Mount, Elizabeth City and Norfolk. Mayflower Hotel, Washington.

Dec. 4—United Air Lines, Western Air Express, on UAL's application for approval of "proposed acquisition of control of, and merger with or purchase of all the assets of WAE."

Indefinite—Missouri Central Airlines, Eastern Air Lines, Braniff Airways, new routes involving Kansas City, Springfield and Memphis; MCA's and EAL's Nashville-St. Louis; MCA's Birmingham-Nashville-Evansville-Terre Haute-Chicago, and EAL's Muscle Shoals-Nashville. Originally set for Sept. 27, postponed "to a date to be hereafter assigned."

### Along the Line

**Airline Feeder System**—A motion was passed on Sept. 14 at the 31st annual convention of the Southern Commercial Congress in New York City to give its unreserved approval and support to the expansion program of AFS as outlined in AMERICAN AVIATION, Sept. 1. The program, explained by Richard T. Crane, AFS president, would embrace 2,906 route miles and would serve 34 cities in 15 states.

**American Airlines**—The company on Sept. 26 transported its 2,000,000th passenger, the first commercial airline in the world to do so, according to C. R. Smith, president. AA carried its first revenue passenger on Apr. 1, 1927. A decade later—Feb. 16, 1937—the line carried its 1,000,000th passenger.

**Eastern Air Lines**—As the result of a study made by Dr. Ralph Greene, director of EAL's aero-medical dept., it was found that only three air passengers out of each 1,000 become air sick. The controlled study of over 100,000 airline passengers indicated that air sickness is less frequent than sea sickness. Another recent study made by Dr. Greene is that of "The Effects of Flying on Ears."

**Pennsylvania-Central Airlines**—To accommodate fans going to Detroit for the Louis-Pastor fight on Sept. 21, PCA operated nine extra sections from Cleveland. Ninety extra seats were sold and 42 persons were on the waiting list shortly before departure time.

**Transcontinental & Western Air**—Thirty-three Pittsburgh University Panthers took off on Sept. 25 from Pittsburgh in two DC-3's, chartered from the TWA system, for Seattle, Wash., to meet the Washington University Huskies in their season opener Sept. 30. This was said to be the first time a football team has flown across the country to keep a gridiron date. Coaches and trainers have estimated that a transcontinental trip by train cuts down effectiveness of the visiting team by about two touchdowns. Planes carried full loads—21 on each plane—and flew Northwest Airlines' route from Chicago to Seattle.

### NEFF FROM UAL TO PAA NY Press Representative Resigns; Succeeded by Frank Buchner of Newark Ledger

For four years New York press representative for United Air Lines, Walter H. "Bob" Neff's resignation to join the Atlantic division of Pan American Airways and the employment of Frank Buchner, aviation editor of the *Newark Ledger*, to succeed Neff, was announced Sept. 23 by United, effective Sept. 25.

Prior to joining United, Neff was aviation editor of the *Wall Street Journal* in New York. Buchner held his former position for the last four years. He is a member of the Aviation Writers Association.

#### Distributor Names Sales Mgr.

Alan Austen has been appointed sales mgr. for Southwest Aircraft Sales, Stinson distributors at Grand Central Air Terminal, Glendale, Cal.

### United Manager

N. B. Rader, former district traffic manager for United Air Lines in Portland, Ore., has been appointed interline traffic manager for the line in the Chicago headquarters.



### Express Up 22%

Air express shipments over the Railway Express system for July totaled 63,529, an increase of 22% over July 1938, it was reported on Sept. 13. Gross revenue for the month was up 26.5%.



## DENVER TO LOS ANGELES

New, Convenient Service  
via Grand Canyon and  
Boulder Dam

Continental-TWA now offer direct connections for fast, scenic air service from Denver and Colorado points to Los Angeles and San Francisco. Leave Denver in the morning—arrive in Los Angeles in early afternoon or in San Francisco before dinner. Fly over America's most scenic air route.

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AIR LINES**

America's Fastest



## Braniff Asks CAA to Reopen Rate Case

The first attempt by a carrier to have its rate case reopened for further consideration was made by Braniff Airways on Sept. 18 when oral argument on the subject was held before the five members of the CAA.

Braniff, which had been receiving 30¢ and 27¢, respectively, on AM9, Chicago-Dallas, and AM15, Amarillo-Dallas-Galveston-Ft. Worth-Brownsville, had asked 35¢ and 32¢, but was awarded 28¢ and 25¢, with certain readjustments in mileage. According to figures which the Post Office will submit to the Bureau of the Budget, the decision means that Braniff will receive \$8,265 less per year on AM9, and \$38,078 more on AM15, or a net increase of \$29,813.

Roger Whiteford, Braniff attorney, told the Authority that its decision was not consistent with the record made of the hearing, that it omitted certain data in the record, and that it is impossible to tell from the decision what things were considered.

Whiteford pointed out that since the decision, Braniff has ordered four DC-3's for delivery in December. Such equipment was made necessary because connecting and competitive carriers are using them, he said, adding that these planes will add about \$9,000 per mo. to the company's depreciation charges. Including all equipment, radio, etc., the four ships will cost \$560,000. Whiteford also stated that \$105,000 has been spent for engines, radio equipment, etc.

Regarding the raise of from \$12,000 to \$18,000 in Tom Braniff's salary, which the decision criticized, Whiteford said this could be construed as meaning that the company's operation was inefficient, while the rate set, which is lower than any other for the same type of service, would indicate that the operation was efficient. "The decision is illogical in its reasoning," he said.

Braniff is experiencing increased competition from American Airlines between Dallas and Chicago and from Eastern Air Lines in Texas, Whiteford told the Authority, adding that "Braniff was the only airline that lost money in June—a good month."

Edward Mills, CAA attorney, objected to the introduction of new evidence at a proceeding to determine whether the CAA will reconsider the rate. Such evidence, he said, broadens the issue, adding that "there must be a stopping point somewhere." Whiteford pointed out that the 2,780 forms, containing the financial and operating data of Braniff, were incorporated into the record through August, whereas the hearing was held in February. Mills, in his argument, stated that for the year ended June 30, last, Braniff made a profit of \$78,722.86 from its mail op-

## United Director



Frank W. Fuller Jr., Winner of the 1939 Bendix Trophy Race, has been elected to the directorate of United Air Lines.

## CAL Pilot to Lockheed

Rodney Lamont, pilot for Continental Air Lines stationed at Wichita, Kan., resigned recently to accept a position as pilot for Lockheed Aircraft Corp., Burbank, Cal.

## Delta Appoints Two

Bill Rainouard recently was promoted to chief flight superintendent for Delta Air Lines, and John Sutton was appointed chief radio operator for the same line.

operations, or \$58,751 from all operations. Adding to either of these totals the \$29,813 estimated increase gives Braniff "a very profitable operation," Mills said. He added also that the CAA does not agree with the \$29,813 figure, but places the increase nearer \$50,000. Regarding the competition of Eastern and American, Mills said it "is of interest but has no conclusive effect." He stated that the case should not be reopened and that Braniff's petition should be denied.

The Authority has taken the petition under advisement and did not indicate at the argument whether the case would be reopened. Whiteford was asked to submit a statement concerning what new evidence he would introduce if the case is re-heard.

## Frank Fuller Elected Director of United

Frank W. Fuller Jr., San Francisco business executive, sportsman pilot and two-time winner of the Bendix Trophy Race, on Sept. 13 was elected to the board of directors of United Air Lines, it was announced by W. A. Patterson, president.

Patterson stated that "the appointment of one of the nation's most air-minded businessmen to United's directorate was further recognition of the company's extensive operation throughout western U. S. in addition to its coast-to-coast service and also of Fuller's interest in commercial aviation as well as private flying."

Fuller is an officer of W. P. Fuller and Co., Pacific coast manufacturers. He fills the vacancy created by the recent resignation of Niles Trammel, NBC executive transferred to New York.

## Patterson Upholds Proposed WAE Deal

Proposed acquisition of Western Air Express by United Air Lines will result in an improved service and increased passenger volume on both routes with reductions in cost not obtainable by the two companies operating separately, according to a letter sent by W. A. Patterson, UAL president, to the WAE stockholders.

The letter also stated that UAL is accepting offers to exchange WAE stock for United, or cash and stock in UAL, as outlined in a prospectus prepared under the Securities Act and mailed to all stockholders. "In addition to stock of nine majority Western Air Express stockholders, a number of minority stockholders among Western Air Express employees have recently sent in their stock to United under the proposed plan, and approximately 60% of Western Air Stock has already been deposited with United for exchange subject to the Civil Aeronautics Authority hearing set for Dec. 4 in Washington," United states.

## ADVERTISING

Resuming relations after two years, Batten, Barton, Durstine & Osborne Inc., has been appointed ad agency for Northwest Airlines, St. Paul.

Pan American Airways eastern division has appointed Mark Byron Inc., Miami, Fla., to handle its national advertising in North and South American newspapers and magazines in the 1939-40 campaign.

## Celebrating 15th Year

Thomas Wolfe, vice-president in charge of traffic for Western Air Express, is celebrating the completion of 15 years in aviation transportation promotion. He entered aviation in 1924 as secretary of the aviation committee, Chicago Association of Commerce. In 1924-27 he was secretary of the Chicago mayor's aero commission, and from 1927 to 1929 he was division traffic manager for National Air Transport. For six years he was district traffic manager for United Air Lines after which he received his present position with WAE. From 1929-36, in addition to other work, Wolfe was an instructor at Northwestern University in air transportation economics.



# FLYING PRESIDENT

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• Jack Frye, President of TWA, is the only executive head of a transcontinental airline who is a licensed airline pilot. And from the president right down, every one of TWA's top operating executives is an experienced, licensed pilot.

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## The Chief Line North & South



## HOUSTON-LOUISVILLE HEARING IN 4th WEEK

**Braniff, C&S, EAL Present Numerous  
City Witnesses, Transportation  
Experts, Congressmen**

Indicative of the battle being fought by Braniff Airways, Chicago & Southern Air Lines, and Eastern Air Lines, for Houston-Memphis-Louisville service, with intermediate stops at Shreveport, Evansville, and Paducah, is the thoroughness with which each carrier is presenting its case.

Numerous city witnesses, transportation experts, and several congressmen have appeared at the hearings begun Sept. 6 before CAA Examiners Francis W. Brown and Lawrence Kesters, and at this writing Braniff alone has completed its case, and Carleton Putnam, C & S president, is being cross-examined, following his declaration that his line should be given the route because (1) it is in the best position to serve the traffic flow from the Gulf area to the north central states; (2) if awarded the service, C & S will move its headquarters from St. Louis to Memphis, being the only one of the applicants intending to locate its base along the route; and (3) while Braniff now operates air mileage of 2,321 and Eastern of 5,324, C & S totals only 909 and so is in greater need of increased mileage than are the others.

Previously Tom E. Braniff declared that discussions have already taken place with American Airlines concerning a Braniff-American interchange of equipment at Memphis. If Braniff is successful in its application, the arrangement with American will offer passengers originating in the Gulf area through service into Washington and New York on DST's, Braniff said, provided of course the CAA approves the move.

Explaining the financial terms involved in the purchase by Braniff of four Douglas DC-3's for delivery early in December at a total cost of \$540,000, the Braniff president revealed that \$400,000 is being borrowed from Chase National Bank of New York at 4% interest on security of the new equipment alone. Similarly, a loan of \$225,000 has been agreed upon between C & S and the American National Bank & Trust Co., Chicago, to finance the purchase by that carrier of three DC-3's for delivery next spring at a total cost of about \$425,000. Amos Culbert, C & S vice-president-secretary and treasurer, testified.

### AD CAMPAIGN BEGINS

**Mrs. Roosevelt Featured in First Airline Magazine Displays**

The joint advertising campaign of the airlines begins this month with four-color advertisements in major magazines featuring a photograph of Mrs. Franklin D. Roosevelt as a constant airline patron and smaller photos and endorsements of prominent business and professional people. The campaign is being handled by Erwin, Wasey & Co. Inc.

In addition to magazine advertising, the campaign embraces a merchandising campaign in which the aid of travel agencies and airline personnel will be enlisted. Two-color broadsides will be directed to the entire personnel of the lines describing the advertising, promotional and merchandising efforts being undertaken, and a four-color broadside will be sent to 10,000 travel agencies in North and South America. Desk plaques of royal blue bearing the theme "It Pays to Fly" and buttons bearing the same theme will be distributed to travel agencies, the industry and its associated groups.

## PCA Has a Party

To strengthen employe relations, Pennsylvania-Central Airlines held a company picnic Sept. 19 at Allegheny County Airport and invited not only its own crowd but the TWA Pittsburgh staff, the airways control personnel of the airport and all of the other aviation groups centered at the airport. The photos are all courtesy of PCA. Here's Who's Who:

1. Luke Harris, supt. of maintenance, demonstrates how to improve employe relations with Alice Matuseski, a PCA stenographer, on left, and Mary Enright, of PCA's accounting dept. on the right.

2. Here's C. A. Lupole, PCA flight control dispatcher well supplied with feminine company. The ladies are, left to right, Mrs. Lupole; Mrs. George Mason, wife of the PCA public relations director; Mrs. C. J. Miller Jr., wife of the PCA field supt. of traffic and sales; Mrs. J. J. O'Donovan, wife of PCA's vice president in charge of traffic; and Mrs. Priscilla Dean Arnold, wife of PCA's vice president Les Arnold.

3. To be very formal about an informal shot, this is Leslie P. Arnold PCA v. p., about to wash down a sandwich with beer.

4. Assistant Operations Manager W. R. Manchester dances with Ann Zalen, secretary to PCA's v. p. Fred Crawford.

5. Watching a ball game just before a cloudburst which forced the party indoors are, left to right: J. E. McGinnis, Pittsburgh associate station manager; W. R. Manchester, ass't operations manager, and Hayes Dever, ass't dist. traffic manager at Pittsburgh.

6. Capt. J. H. "Slim" Carmichael, PCA's paunchy operations manager, dances the "Beer Barrel Polka" in a dirty sweat shirt he should have been ashamed to wear with Mrs. W. R. Manchester, wife of his assistant.

7. Along the rear of this group, left to right, are Ralph Lockwood, Gulf Oil's Atlanta representative; L. P. Arnold, PCA v. p.; E. F. Kelley, PCA ass't treasurer, and Mrs. J. J. O'Donovan, wife of the PCA v. p.-traffic. In the foreground, reading clockwise and starting with the gentleman whose back was turned to the camera, are Luke Harris, Fred R. Crawford, exec. v. p. and secretary; Mrs. C. Bedell Monro, wife of PCA's president; Mrs. F. R. Crawford, and Mrs. J. H. Carmichael who seems to be making faces at Luke Harris.

8. Betty McHenry, a PCA secretary, pauses to refresh and renovate a pair of pretty lips.

9. E. F. Kelley, ass't treasurer, improving employe relations with Darlene Lane, a PCA secretary.





## CAA Rate Decision Gives Pan Am Boost in Trans-Pacific Mail Pay

Company Receives \$2,888,398 Per Yr. at 95% Performance; Had Requested \$4,027,472; Increases Retroactive to Apr. 1

Although not approaching the amounts requested, a substantial boost in air mail pay was awarded Pan American Airways (Nev.) on its San Francisco-Hong Kong route by the terms of a CAA rate decision issued Sept. 14.

Pan Am, which was receiving \$4 per outbound mile for the first 800 lbs. of mail, is awarded rates as follows: \$3.35 per mi. between San Francisco and Manila on both eastward and westward crossings, and \$4.95 for each westbound trip between Manila and Macau or Hong Kong. One rd. trip a week is operated, and the rates apply on 1,000 lbs. of mail, plus \$1 per lb. per 1,000 miles for excess. The company had requested \$3,920,640 for 52 trips per yr., plus \$8 per lb. for eastbound U. S. mail between Guam and Honolulu, \$16 per lb. Guam-San Francisco, and \$8 per lb. Honolulu-San Francisco. Including eastbound U. S. mail and Philippine mail, the yearly lump sum asked was \$4,027,472, assuming 95% performance.

The new rates were made retroactive to Apr. 1, 1939, because "April, 1939, was the first full month during which the service contemplated in the petition and proof actually was rendered."

Translated, the rates mean that Pan Am will receive \$2,888,398 per yr. U. S. mail pay, based on 95% performance. All foreign mail is to be for the account of the carrier, and Pan Am estimates this at \$86,000 per yr. Some idea of the increase may be seen by comparing the new rate with the \$1,666,151 which the company received in mail pay during the year ended June 30, 1938.

"It is evident from the record in this proceeding that petitioner is and for some time past has been in need of increased revenues," the Authority said. "Since the beginning of its service, substantial operating deficits have been sustained."

Some criticism of Pan Am's plan of operating the route with two Martin 130's and two Boeing 314's, each type of plane performing half the schedules, was contained in the decision. The Authority, although not insisting that a change be made, indicated that it would be more economical to use the Boeings mainly between San Francisco and Honolulu, where the traffic is heaviest, and the Martins on the western sector. Pan Am had contended at the hearing that such arrangement would necessitate a base at Honolulu and would not allow time for maintenance. "The objections raised by petitioner's witnesses do not impress us as being conclusive," the CAA said, adding that the Boeings could be used in such a manner as to relieve the Martins for maintenance purposes.

Pan Am has estimated that total yearly direct and indirect operating expenses will be \$3,792,516. In addition, annual charges of \$252,144 for amortization of developmental costs, \$857,652 return on investment, and \$141,504 federal income tax, were estimated. Deducting from the total an estimated \$718,056 passenger-property yearly revenue, and \$405,120 eastbound U. S. Philippine and foreign mail revenue, the yearly mail pay necessary would have been \$3,920,640. Total investment in the service is said to be \$8,576,571.

The CAA, however, did not agree with all these figures, stating that "we believe petitioner's estimate for passenger revenue is too low." After pointing out that fares are now 22% lower, that larger planes are to be used, and other factors, the Authority estimated that the annual operating revenue, exclusive of U. S. mail, would be \$1,010,000. Also, the annual operating expenses were set by the CAA at \$3,320,000, before income taxes and amortization of developmental costs.

These developmental costs which the company claimed totaled \$2,346,505.97, divided as follows: \$396,010.75 on the Shanghai books, \$1,337,849.73 on the Alameda books, and \$612,645.49 interest on claimed investment during developmental period. Pan Am sought a rate which would permit amortization of these charges by November, 1945. Since October, 1936, the company has been amortizing with that end in view, the CAA said.

However, of the \$396,010.75 on the Shanghai books, only \$50,000 was allowed by the CAA, for expenditures between Manila and Hong Kong, and negotiating for operating rights in the Philippines, Macau and Hong Kong. The remainder had been claimed by the company because of its operation between Canton and Shanghai on the grounds that the route was essential to trans-Pacific service. The CAA stated that "the proposition that this service within China was a prerequisite of the trans-Pacific service appears from the evidence to have been one conceived and advanced solely by petitioner."

The entire \$1,337,849.73 on the Alameda books was allowed as "proper developmental costs." Interest, however, was cut from \$612,645.49 to \$242,412, through reduction of the Shanghai item, and because only 5% was allowed instead of the 10% requested. Thus, total developmental

## New Antenna



Here is a new antenna especially designed for instrument landings installed on a United Air Lines DC-3. One of the newest developments in this field of aeronautical research, technicians report tests of the new antenna have been highly satisfactory and that it brings in the practically perfect pattern of radio signals sought in the development of instrument landing equipment.

costs allowed were \$1,630,261.73, of which \$1,191,232.25 remains to be amortized, the CAA said. "In arriving at our determination of a fair and reasonable rate, we have included an amount for amortization based on 10% of the presently anticipated gross revenue from sources other than United States mail, as discussed elsewhere in this opinion," the Authority stated.

Regarding Pan Am's contention that a 10% return on its total investment should be provided, the Authority repeated its argument contained in the trans-Atlantic case that it is not required by law to furnish such return.

## C&S, United Open Joint Office

Chicago and Southern Air Lines and United Air Lines on Sept. 26 jointly opened a new city ticket office in St. Louis at 1007 Locust. Three C & S employees and one United employee will maintain the office.

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## Airline Personnel

Charles E. Hurley has been added to EAL's Chicago city ticket office staff. Ray Braud left Chicago recently to become asst. to Capt. L. H. Pabst, Atlanta. L. Spicer went to Chicago as Eastern radio operator to fill the vacancy left by Charles Foley, transferred to Miami. New mechanic at Chicago is W. E. Forch, from Marine service at Quantico, Va. Another Chi-EAL newcomer is Frank Gear from Indianapolis.

John Schneider and Hal White have been transferred to Atlanta by Delta and promoted to flight superintendents.

Two additions at Chattanooga, R. P. Swanson and H. C. Wall, have been announced by EAL.

W. M. Rogers has been transferred to Brownsville from Louisville by Eastern. Another EAL transfer involved Gene W. Scott, to Memphis from Greensboro via Washington.

New employees in Pan Am's communications dept. in Baltimore are John D. Potter, transferred from Miami; Harold G. Lambert from Miami, and Winton E. Modin of Middle River, Minn., as apprentice radio operator. New meteorology employe is Bernard Steeple Adams of NY.

Dick Howell has joined Eastern's Houston city ticket office, being transferred from operations, New Orleans.

TWA has announced the following new first officers: T. Roscoe, G. Felt, T. Bradbury, R. Evers, N. Knudsen, F. Sargent, all based at Kansas City, and A. Barnard, based at Newark.

R. A. MacAvoy left Washington recently to join Eastern's communications dept. at Miami.

TCA crew chief at Lethbridge, Stan Knight recently was transferred to Winnipeg. He was succeeded at Lethbridge by J. E. MacLaughlin from Winnipeg.

J. H. Davis and L. M. Woodcock of Savannah have been hired by Eastern as transportation agents in their home town.

John C. Boyle has been appointed asst. shop supt. for Pan Am's Pacific div. He joined the line in 1936 after 16 years in the Navy.

Richard F. Selcer, Air Corps reserve

pilot of Chattanooga, has been accepted by American as a co-pilot.

Formerly an Air Corps cadet at Randolph Field, L. Seneca Powell of Birmingham has joined Eastern as transportation agent at Tallahassee.

A 3d generation Californian, Capt. Allan A. Barrie recently completed 10 years as a WAE pilot, with more than 10,200 flying hours to his credit.

Previously with the operations dept., George Dean has been appointed special traffic representative for Panagra at Talara, Peru, following the resignation of Harry Evans.

Jack Aiken has been elevated to rank of junior engineer, and Apprentice Engineer Stephen Kitchell and Stanley Zedalis of maintenance have been assigned to flight duty as engineer officers in PAA's Atlantic div.

John Stahler has been transferred from Houston to the Atlanta field traffic office by Eastern. Additional EAL Atlanta news follows: Jack White and Charlie Martin are now in the downtown ticket office. Lanier Bishop has been promoted to field traffic mgr. O. J. Bray is now chief dispatcher. New additions to the radio branch are Eugene Mickel, transferred from Miami, Bill Keating, Tommy Thompson and Fred Keating. C. J. Clark has been appointed maintenance foreman, transferred from Miami. E. R. Crowe, who has handled accounting, was promoted to field mgr. J. Alvarez and H. Manown, flight stewards, were transferred from Newark.

Charles Hammond has been employed by TWA as representative of traffic & sales in Los Angeles.

New EAL mechanic at San Antonio is Raymond Peters, formerly with Tobin Aerial Surveys. Another new arrival at San Antonio is L. E. Pawkett.

Panagra has transferred C. Castaneya, former operator at Chiclayo, Peru, to Limatambo station, Lima, Peru. J. Duran, former Limatambo operator, has been transferred to Chiclayo.

Additions to Eastern's New Orleans personnel follow: transportation agents—Charles Glover, Frank Smith, Bob Cain; couriers—Frank Strickland, Claborn, Boudreau, Russel Booker, W. F. Dunz, former chief mechanic at NO, has replaced H. W. Toffemire as station mgr. Toffemire took over the same job in Chicago. New addition to the NO city ticket office is Charles Otis Ogden.

New members of PAA's district traffic staff in NY are Cliff Roberts, Ben Anderson and Clark Taplin. Other new employees are Lillian Ryan and Helen Keyes.

New EAL employe at Baltimore is E. H. Marsteller from Manassas, Va. Newcomers to Panagra's maintenance dept. at Lima, Peru, are R. O. Majors, R. F. Smith and J. D. Brown.

Robert Simrell has joined TWA's reservations sales dept. in Pittsburgh.

In PAA's maintenance dept. at Baltimore, Harold H. Homan, who was chief of plane service, has been transferred to Miami. His place was taken by W. C. Smith, asst. chief of plane service, whose post was filled by A. G. Thomas, transferred from chief mechanic, Bermuda. Ted Wright was moved to take Thomas' place.

H. A. Felder is the newest addition to Eastern's staff at Charleston. Eddie Ogilvie, operator-in-charge, WEEB, Charleston, resigned recently to accept a position with the CAA in Columbia, S. C. E. V. Sikes, transferred from Miami, replaces Felder. H. P. Haselden resigned as chief transportation agent to join Delta Air Lines at Charleston. He was replaced in EAL's staff by Frank Albright from Miami.

With headquarters in Kansas City, T. Miranda has been employed by TWA as a public relations director.

Following are newcomers to Eastern's Camden staff: Jim Worley, Jerry Haythorne and Frank Bowler, all transferred from Newark. Latest addition to the maintenance crew for the autogiro operation is Robert H. Wenzke, formerly with Kellett Autogiro Corp., Philadelphia. With inauguration of autogiro operation Camden-Philadelphia PO roof, the following were transferred from Camden to the Philly roof: J. W. Hall, in charge of the station, and Louis B. Dalpiaz, asst. to Jack Hall, mechanic and radio operator.

Joe Hannum was employed by Eastern at Charlotte when the line opened its new city ticket office there.

Huxley Galbraith has been transferred from operations in PAA's eastern div. at Miami to the Atlantic div. at Fort Washington, L. I. He is assigned exclusively to clearance—the preparation of necessary international papers to accompany aircraft.

E. L. Williams recently joined EAL's station personnel at Orlando.

## Trans-Canada Builds a Hangar



This unusually airy and commodious hangar was constructed by The Austin Company of Canada, Ltd., for Canada's new transcontinental airline at Winnipeg. One of the line's Lockheed 14's is shown just outside on the apron. The hangar incorporates a novel design to accommodate aircraft of any wing spread, it having a cantilevered superstructure with sixty feet overhang, supported by a seventy-ton jack truss, and can be extended in multiples of two hundred feet with all columns and other supports back sixty feet from the overhead doors and apron. The administration building on the left provides accommodations for engineering personnel, weather observers, radio staff, pilots, dispatchers and a waiting room for passengers. Trans-Canada is now operating mail and express service Montreal to Vancouver.

## All American Schedules Advanced 22 to 45 Min.

Autumn schedules for the two air-mail and express routes operated by All American Aviation Inc., Wilmington, Del., became effective Sept. 25, principal changes being on the afternoon trips between Huntington, W. Va., and Pittsburgh, and between DuBois, Pa., and Pittsburgh, on which the pick-up time is advanced from 22 to 45 minutes at each station to permit daylight arrival at Pittsburgh. No change in the 10 o'clock departure time on the Pittsburgh to Huntington morning trip, nor on the Pittsburgh to DuBois morning trip has been made, and the 9 a.m. departure on the trip between Philadelphia and DuBois remains the same.

Under the new schedule, however, planes will maintain an average 110 mph. speed instead of the present 100, Richard C. du Pont, company president, has announced, explaining that with the old average liberal allowance was made for delays expected in early days of operation, but experience has shown a higher speed possible still leaving the planes with adequate reserve speed to overcome ordinary delays. A winter schedule will be announced later.

## Licenses of 2 Airline Mechanics Revoked

Two National Airlines engine mechanics on Sept. 25 were notified by the CAA that their licenses have been revoked for disregard and violations of the Civil Air Regulations. The men waived their right to a hearing.

The CAA found that Edward McGeary, holder of certificate No. 6409, had demonstrated carelessness and incompetence in permitting his assistant, Vincent Fette, to install structural parts of a type not approved by the Authority in a Pratt & Whitney engine on which he was working.

Fette's certificate was revoked because of carelessness and incompetency demonstrated in his overhaul, repair and assembly of the engine, in that he did not follow the recommendations set forth in the instruction books by the engine manufacturer, and that he used structural parts other than those approved by the CAA in the repair of the engine.

Both men had been employed by National at the company's St. Petersburg base.

**Carburetor Circular Distributed**  
Principles of operation and characteristics of a new injection carburetor for aircraft engines are described in a circular being distributed by Boeing School of Aeronautics, Oakland, Cal.

## American, Out of Grand Central, Moves To Union Air Terminal

For probably the first time in aviation history, a major airline was asked to move from a major airport when, late in September, Maj. C. C. Moseley, lessee of Grand Central Air Terminal, Glendale, Cal., gave American Airlines 30 days' notice to vacate that port as its Los Angeles terminus. The move was asked to allow expansion of Curtiss-Wright Technical Institute's ground school.

American, an airline without a home, through its vice-president-operations, Ralph Damon, and Dudley Steele, manager of Union Air Terminal, Burbank, will have a service hangar and executive office space at Union Air. Some 44 schedules daily out of Burbank will make that field the nation's third largest, it was said.

Removal of American from the Glendale port releases approximately 35,000 sq. ft. of space for classrooms, shops and additional facilities which are to be constructed immediately. C-W Tech, of which Moseley is owner, is training several hundred Air Corps mechanics and has a civilian enrollment of over 500 men. Also training at Grand Central Flying School are a large number of Air Corps flying cadets.

Pan American Airways, also using Grand Central as its Los Angeles terminal, was not affected by the ouster and will continue to operate out of the port.

## CCA Makes Big Gain

Canadian Colonial Airways carried 2,265 paid passengers during August on the New York - Montreal - Burlington route, against 636 for the same month in 1938. Total paid passengers for the first eight months of 1939 totaled 8,269 against 2,269 for the same 1938 period, according to Sigmund Janas, president.

## 47 Get Curtiss Certificates

Marking completion of its 10th year of training classes in foremanship, Curtiss Aeroplane Div., Curtiss-Wright Corp., Buffalo, N. Y., has awarded certificates of proficiency to 47 graduates. Burdette S. Wright, v. p. and general mgr., who presented the certificates, also gave to each graduate a bound copy of the standard foremanship text for metal trades industries. Charles S. Mattoon, personnel director of the division, is chief instructor of the training school.

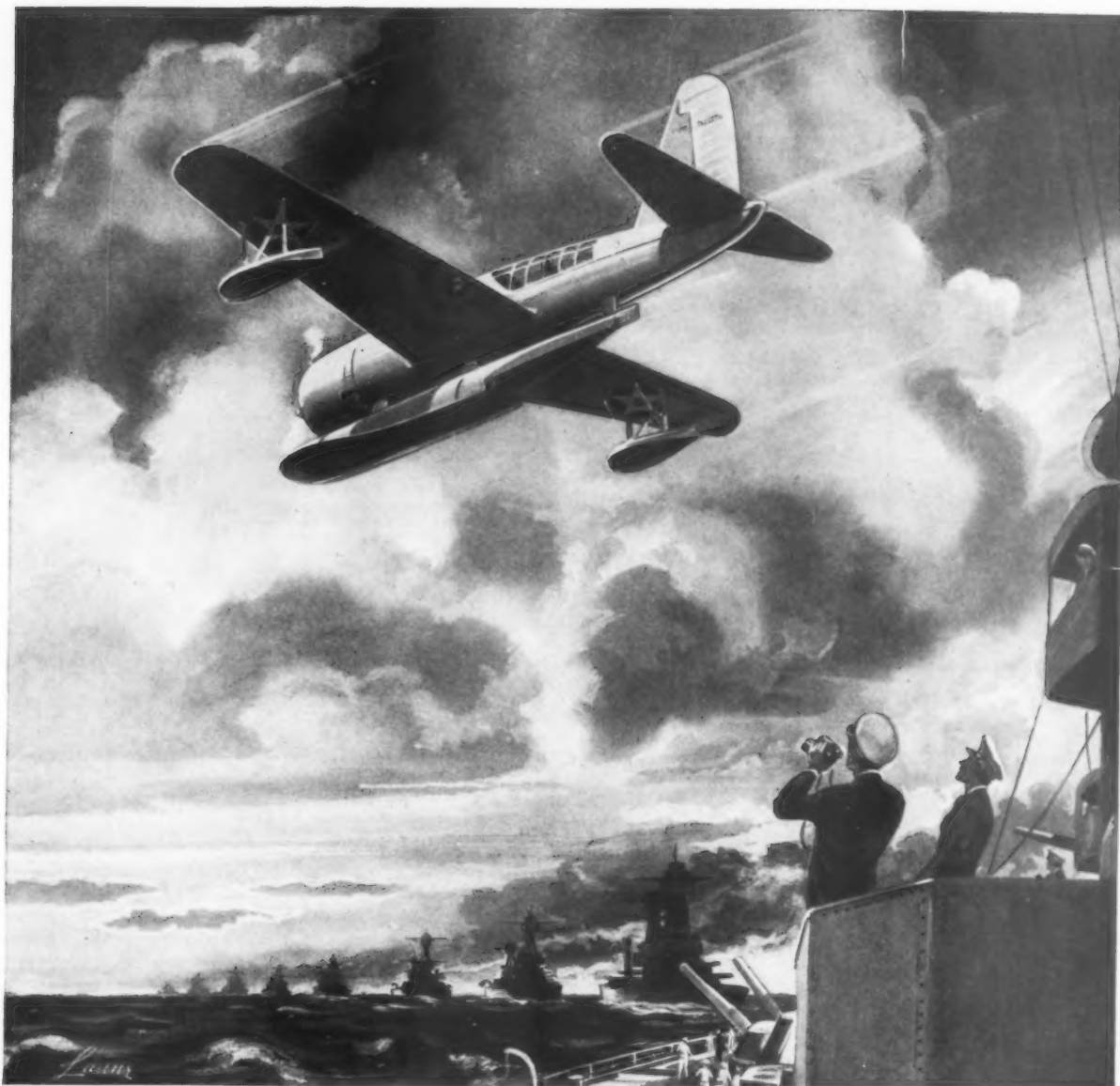
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# VOUGHT-SIKORSKY AIRCRAFT

STRATFORD, CONNECTICUT

ONE OF THE THREE DIVISIONS OF UNITED AIRCRAFT CORPORATION



## North Beach-Newark Fight Ends; Hinckley Quits Hearing to 'Allay Fears'

Highlighted by the withdrawal of Chairman Robert Hinckley from the case, the CAA's most controversial hearing, involving the applications of the four major airlines for permission to go into North Beach Airport, New York, concluded Sept. 22 after a two weeks' run.

Bitterly opposed throughout by the city of Newark, representatives of American Airlines, United, Eastern and TWA sought to prove that making the \$40,000,000 North Beach Airport the eastern air mail terminal would definitely be in the public interest.

The hearing, however, wandered far afield from the convenience and necessity angle, and was marked by charges from the Newark side that the case had been prejudged and that politics would, in the final analysis, be the deciding factor.

Chairman Hinckley's unprecedented action followed testimony in this vein on Sept. 20 by Mayor Meyer Ellenstein of Newark, who insisted upon reading a letter written by Hinckley to Lieut. Richard Aldworth, manager of the Newark Airport. The letter, written in June, 1939, before any applications to move to North Beach were received from the airlines, was in answer to a query of Lieut. Aldworth concerning the proposed centralization of airway traffic control and communications at the New York field.

"Upon the general understanding that the North Beach Airport would shortly become the principal air carrier terminal for the New York area, considerable progress has been made on plans to locate the traffic control center and the principal communications and meteorological offices for the New York area at North Beach, also to establish the headquarters of the first region at that point," the letter stated.

"It would seem to me, in some regard at least, that the use of North Beach had been predetermined," Mayor Ellenstein said. "You cannot get any other implication from the language of that paragraph."

Hinckley then explained that construction at North Beach started in 1937, and that from time to time there were conferences between the Bureau of Air Commerce and the WPA regarding the plans of the field, and undoubtedly were "some conversations" concerning accommodations for the BAC. Such conversations, he added, were carried on by the field staff of the CAA "but have never been discussed with the Authority, between Authority members." Hinckley made it clear that the CAA has not entered into a lease with New York for accommodations at North Beach, adding that even if a building had been constructed "it would still have had absolutely no bearing as to the issue in this case." The public convenience and necessity is the only point involved, he stated.

"Now, inasmuch as there has been so much loose talk about prejudgment of this case, and so much loose talk about politics being the factor that will determine the decision in this case," Hinckley continued, "while I do not in any way now, or have felt disqualified to sit in this hearing (because if I had felt disqualified to sit in this hearing I would not have entered upon it), but in order to allay the fears and suspicions that have been implied in the hearing, and have been practically said by others appearing who have not been sworn, the Chairman now withdraws from further participation in the hearing and in the proceedings and will

not participate in any manner in the final opinion and decision, and I hope that that will clear the record once and for all and will allay and stop that kind of loose conversations that have been indulged in." He then gathered up his papers and left the hearing room as Vice Chairman Harlee Branch took the chair.

Repeated statements also were made by Mayor Ellenstein that the airlines' proposed moves to North Beach were instituted by American for that company's own "private convenience" and "economic advantage." Two attempts by the Mayor to introduce testimony concerning his conversations with O. M. Mosier, American vice-president, were blocked by the airlines' counsel as not being material to the issue.

Attorneys for all four airlines made repeated statements on the record that it was not the intention of their companies to withdraw entirely from Newark, but that the city would continue to have adequate service. Newark attacked this position with testimony designed to show that two airports would create a hazard, that transportation facilities into New York are satisfactory, and that Newark Airport can adequately serve the needs of the metropolitan area.

Frankest testimony was given by Capt. Eddie Rickenbacker, president of Eastern Air Lines, who stated that "competition has a hell of a lot to do with our decision." Forced to move to North Beach because the other lines are doing so, Capt. Rickenbacker said he is afraid his company is going to be the victim of additional expense which added revenues will not cover. He estimated that it will cost \$125,000 to \$150,000 per yr. more to use North Beach, "and where the money will come from, I don't know." It is possible that Eastern may be forced to ask increased air mail payments, he concluded. He suggested "building one airport in the middle and giving the other two back to the Indians."

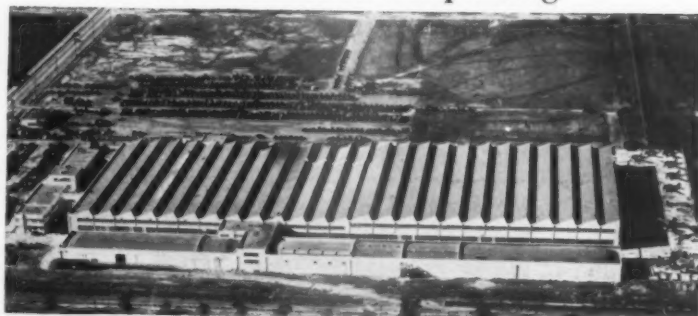
An analysis of the testimony submitted on the question of additional costs which will be occasioned if both fields are used shows American estimating \$209,312 as the probable yearly added expense, United, \$151,500, and Eastern, between \$125,000 and \$150,000. TWA did not submit similar evidence. American, which is moving its general offices from Chicago, will have the most elaborate set-up.

The Post Office Dept. declined to favor either one or the other of the fields, carefully steering clear of expressing any opinions. Charles P. Graddick, superintendent of air mail, and John C. Young, assistant superintendent in the New York area, testified, but confined themselves to presenting facts concerning transportation facilities, running time, etc.

The hearing also revealed that the federal government has put approximately \$25,000,000 into the North Beach Airport, while the city has contributed \$16,000,000. Regarding landing fees, it was testified that each airline will pay \$200 per month for the first three schedules, \$100 each for the second three, \$50 each for the third three, and \$25 for the tenth and succeeding.

Among the fireworks at the hearing was an attempt by John S. Wynne, Newark attorney, to have the entire matter dismissed and the petitions denied. His motion, which was denied, came at the conclusion of the testimony offered by the airlines and the city of New York, and was based on the contention that no showing of convenience and necessity had been made. He accused the airlines of "rushing into this thing." On the New York side, Frederick Bryan, acting corporation

## North American Expanding



The present plant of North American Aviation Inc., Inglewood, Cal., occupies 550,000 sq. ft., and an addition of 100,000 sq. ft. is being planned. Proposed addition will occupy the square adjacent to the present plant at right center, shown here.

### Planes

(Continued from page 16)

counsel, stated that it was a "disgraceful thing" for Newark to present testimony in an attempt to show that its airport was safer than North Beach. "The city of New York is not engaged in any deep, dark plot against Newark," he said at another point in the proceeding.

Witnesses who testified in addition to those mentioned above included Charles Rheinstrom, American's vice president-sales; Roy Mitchell, AA's assistant operations manager in charge of flying; Vincent Conroy, TWA vice president-sales-traffic; L. G. Fritz, TWA vice president-operations; H. J. Zimmerman, chief pilot of TWA's eastern division; R. E. Pennig, United's eastern operations manager; Ray Ireland, UAL traffic manager; Walt Addems, flight superintendent of UAL's eastern division; Paul Brattain, EAL vice president; George McCabe, chief pilot of AA's eastern division and chairman of a pilot's committee which made recommendations concerning construction of North Beach; Maj. Elmer Haslett, aviation consultant for the city of New York; Col. B. B. Somervell, WPA administrator in New York; John McKenna, Commissioner of Docks, New York; George Spargo, assistant to the Commissioner of Parks, New York; Spencer Smith, chairman of the New Jersey state board of commerce and aviation; James Costello, member of the 1927 Hoover Factfinding Commission, which selected the Newark site; Prof. William Nunn, Newark University; Lieut. Richard Aldworth, manager of Newark Airport; Capt. Gill Robb Wilson, New Jersey state director of aviation; James Logan, New Jersey state highway engineer, and Charles Fagg, Newark Chamber of Commerce.

Counsel for the parties were Hamilton Hale, American; Paul Godehn, United; John Lorch, TWA and Eastern; George Neal, CAA; John Wynne, Newark, and Frederick Bryan, New York.

CAA Vice Chairman Harlee Branch asked that briefs on the case be submitted by Oct. 12, in order to assist the Authority in arriving at a quick decision.

### Govt. Publication Ready

A new edition, the third, of "Practical Air Navigation and the Use of the Aeronautical Charts of the Coast and Geodetic Survey," by Thoburn C. Lyon, associate cartographic engineer, is now available. This is also known as "Special Publication No. 197," and may be purchased from the Supt. of Documents, Government Printing Office, Washington, D. C., at 65c for a single copy.

### Ryan Tests Model Wing

Results of experiments with a model slotted wing in the visual smoke flow wind tunnel recently constructed by the mechanics division of Ryan School of Aeronautics, San Diego, Cal., will determine the detailed design of a new experimental wing to be tested soon in actual flight. Included in the experimental group are Ed Baumgarten, William Brown, Walter Gafner, William Immenschu, Ralph Swift and Fred Thudium. Supervising the work is Stanley H. Evans, director of the school.

fish and coordinate their fishing activities? Why are so few airplanes owned by state governments in highway and police activities?

"The nation is actually calling for light airplanes, safe, simple, adequately powered and built to a need—built to a need and not because of habit in design or competitive price.

"What is needed today is proof of the airplane's utility by practical demonstration; thinking and designing in terms of a useful market. Stinson should be complimented for its new model 105. It seems to have something that attracts the public because of its adequate simplicity. The ultimate airplane for private-owner use may have a tricycle landing gear to facilitate control and landing in small areas, but the light airplane being made today is a good starting point for future development and is easy enough to handle and safe enough to satisfy most prospective owners.

"South Carolina has made rapid strides in building airports and opening up facilities for transients as well as local people. It has men of high caliber operating at its various fields—men like Bob Turner of Spartanburg, Ike Jones of Greenville, Louis Speth of Laurens, Beverly Howard of Charleston, and Earl Friedell who only recently took over Camden Airport. In Dexter Martin you have an aggressive state director who isn't afraid of getting off the beaten paths and invoke some new ideas such as state maintenance of both private and municipal fields. You also have a man who isn't afraid to go to Washington and battle for you without pulling any punches."

W. W. Watson of Columbia, S. C., presided at the breakfast gathering. Among those who spoke was Frank Mara, of the Stinson Aircraft division of Aviation Mfg. Corp. Citizens of Camden, a well known winter resort famed for its horse racing and horse shows, transported the pilots to and from the airport. Arrangements were in charge of Frank Heath of the Camden Chamber of Commerce. The Sunday morning breakfast meetings were launched by Dexter Martin, state aeronautics director, as a means of bringing the state's pilots together informally. On Sept. 24 Charleston was host and on Oct. 8 the pilots will fly to Laurens.

### Becomes Spartan Instructor

Lieut. James L. Fletcher, head of the aviation dept. at Oklahoma Military Academy, Claremore, for three years, has resigned to become an instructor at Spartan School of Aeronautics, Tulsa, effective July 1.



## Learradio Airport Localizer Shows Pilot Relative Position to Runway

The Learradio airport localizer, which is said to inform a pilot of his relative position and direction of approach to a selected runway on an airport, has been announced by William Lear, of Lear Developments, Roosevelt Field, Mineola, N. Y.

The system employs two radio transmitters spaced apart in line with the runway, and a receiver located aboard the aircraft with a two-needle indicator automatically controlled in accordance with the radio signals from the two transmitters.

For example, transmitter T1 may be located one-half mile from the runway, and T2 in line with both the runway and T1 at a distance of four miles. The indicator in the plane contains needles 1 and 2 and a zero index at the top. The pilot maneuvers his aircraft until he reaches head-on position, at which time he is in a direct line with T2, T1 and the runway. In this position, needles 1 and 2 point to 0 index. As the plane passes over T2, needle 2 reverses 180 degrees, indicating that the ship is four miles from the runway. Proceeding over T1, needle 1 also reverses 180 degrees, telling the pilot he is one-half mile from the field and in a direct line with the runway. Descent to the runway is performed by use of a sensitive altimeter, a radio glide path, or other radio guidance from a third transmitter, T3, which may be located at the outer end of the runway.

The airport localizer embodies the Learradio automatic direction finder, commercially denoted as ADF-6, wherein an indicator needle automatically points out the direction towards the radio station to which the receiver is tuned. The principal of the airport localizer involves two transmitters and a Learradio automatic directional indicator responding individually to the two transmitter stations. Transmitter stations T1 and T2 may be arranged to transmit simultaneously at separate frequencies, in which event two separate receivers and associated indicators are used. In the commercial form of the system the same radio frequency is used for both transmitters, using a single receiver unit which materially reduces the expense and weight of the equipment needed aboard the aircraft. In the latter case, the transmitters are arranged for alternate radiation at predetermined intervals, their periods of

radiation being synchronously controlled.

In practice, the pilot employs the localizer receiver as an automatic direction finder, navigating from any distance by automatic directional guidance until he approaches the general vicinity of the airport. When he reaches the airport, he tunes the directional receiver to the predetermined radio frequency common to both ground transmitters T1 and T2. The receiver is then automatically converted for operation as a localizer indicator, individually and automatically controlling both indicator needles so as to point to their respective transmitters T1 and T2.

## Northeast Air Base Site in Massachusetts

A tract of approximately 4,300 acres lying about three miles east of Holyoke, Mass., and three and one-half miles northeast of Chicopee Falls has been selected and approved as the site of the Northeast Air Base for the Air Corps.

Announcement, made Sept. 15, said construction would be initiated without delay and will consist of runways, shops and temporary housing for a limited number of officers and necessary enlisted personnel.

Cost of construction is estimated at \$3,613,000. This amount does not include the original purchase price of the land.

## NACA Picks Sunnyvale For \$10,000,000 Labs

As was expected in Washington, the National Advisory Committee for Aeronautics announced Sept. 22 that it had selected Moffett Field, near Sunnyvale, Cal., as the site for the new aeronautical research laboratory authorized by the last session of Congress. Fifty-four sites were studied by the committee but since it had previously asked Congress for funds with which to build at the Sunnyvale site it was not expected that the committee would alter its original choice.

The laboratory will cost \$10,000,000 and the committee announced that it planned to speed construction as rapidly as possible. After turning down the NACA request for funds, Congress finally approved the money in the Third Deficiency Act. Many sections of the country sought the laboratories. The Sunnyvale labs will supplement on the west coast the extensive research facilities of the NACA at Langley Field, Va. Sunnyvale is at the south end of San Francisco Bay, about 30 miles south of the city.

## Douglas Enters Into Stipulation With NLRB

The NLRB has entered into a stipulation with Douglas Aircraft Co. Inc., Santa Monica, Cal., by which the company consents to the entrance of a decree in the ninth circuit court of appeals enforcing the board's order to withhold all recognition from the Aircraft Workers Union Inc. and to cease and desist from discrimination against the United Automobile Workers of America, Douglas Local No. 214 (CIO).

Stipulation ends a case begun in 1937 upon the filing of charges, both by the UAWA and the International Association of Machinists, that the company was dominating the Aircraft Workers Union and discriminating against the organizations filing charges.

"Our controversy with the NLRB was a fight for a principle," said Donald W. Douglas, company president, on Sept. 18 in commenting on the stipulation. "It was based on our refusal to reinstate with full back pay men who in 1937 seized our plant, threatened to destroy it and later were convicted in the courts of a conspiracy to commit violence."

"To have complied with the board's original order was to place a stamp of approval on planned lawlessness and disregard of individual rights. This we were prepared to resist with every legal means at our command."

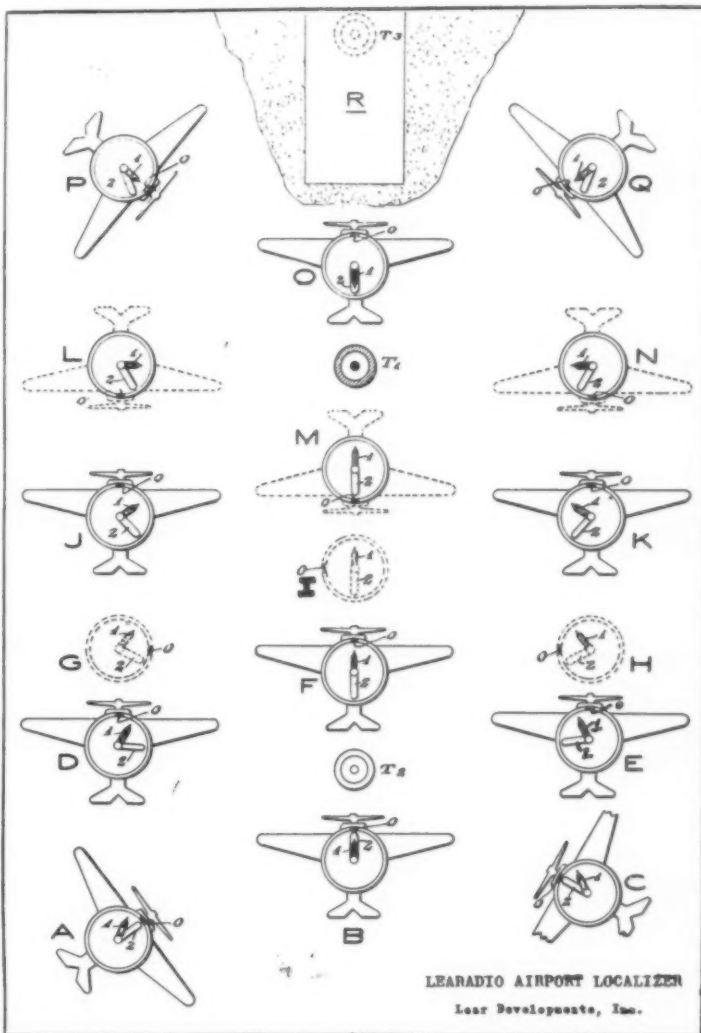
"Recognition by the board of this principle is a complete vindication of our position . . ."

"Since the end of the futile and lawless sit-down strike more than two years ago, we have been enjoying harmonious relations with our employees. I welcome the decision by the NLRB to recognize and encourage only orderly and lawful methods in labor dispute. This, at last, is a step in the right direction."

## Mantz Adds 2 Planes

Paul Mantz Air Service, Burbank, Cal., has announced the addition of two new ships to its fleet. A new four-passenger Beechcraft powered with a 225-hp. Jacobs motor is one of the additions. The other is a Lockheed Orion, powered with a 760-hp. Wright Cyclone.

## Localizer Employs 2 Transmitters



This diagram of the Learradio airport localizer shows how the needles 1 and 2 always point to their respective transmitters, T1 and T2. The pilot maneuvers his plane until he reaches head-on point B, passes over T2, where needle 2 reverses 180 degrees, continues through positions F, I and M, over T1, where needle 1 also reverses 180 degrees, and thence on into runway R.

## 3-Place Cloudster Offered

The Rearwin Cloudster is now being offered in a three-place as well as in a two-place model, it was announced Sept. 16 by Rearwin Aircraft & Engines Inc., Kansas City, Kan.

## 12 Back to School

The following men were called from various positions and parts of the country to augment the maintenance dept. of Ryan School of Aeronautics, San Diego, Cal.: Robert Hall, Leonard Black, Jim Holmes, Eddie Imperato, John May, Harold Vroman, Charles Goff, Charles Ault, Charles Query, Neal Altzer, Leonard Miraldi and Kenneth Johnson.



Lead the way in size, weight and price for proven service

# AIRCRAFT RADIO TRANSMITTERS

AVIATION RADIO SECTION, RCA MFG. CO., INC., CAMDEN, N. J. • A SERVICE OF RADIO CORPORATION OF AMERICA



## 1915 Union Engine Given to Institute

A 1915 Union aircraft engine, the original model designed and built by Stanley H. Page, former vice president of Union Gas Co. of Oakland, Cal., and said to combine many of the best features of the Liberty motor, has been added to collections of the Smithsonian Institute, Washington, D. C. Page first undertook work in the World War engine in answer to a call of the Navy Dept. for an airplane engine combining lightness and reliability and able to meet the official requirement of a 48-hr. continuous run. Tested at the Washington Navy Yard, then the center of governmental aviation research, Page's engine bettered by 20 hrs. the best previous record for an American engine of 35 hrs. continuous run before it was voluntarily stopped.

With U. S. participation in the World War, reproductions of the Union engine performed well in powering lighter-than-aircraft used for coast patrol and submarine spotting on both sides of the Atlantic, but it was not adopted for heavier-than-air machines. In May, 1919, at the time of the NC-4 flight from Rockaway, L. I., to Plymouth Eng., a Navy airship, the C-5, left Rockaway propelled by a Union motor. After reaching Newfoundland in good time, the C-5 ran into a severe rainstorm and was blown out to sea, never to be heard from again. Thus the chance of the Union engine being the first to carry aircraft across the Atlantic was lost.

Page installed the original motor returned to him by the government in his private flying ship and presented it to the Institute to end its search for a Union engine.

## Military

### Zone Force Strengthened

As part of a move to strengthen the defenses of the Panama Canal, the Air Corps in the Zone has been increased by a total of 30 pursuit planes, 18 of which were flown from Selfridge Field, Mich., and the remaining 12 from Barksdale Field, La. Air Corps personnel was increased by 26 officers and 170 enlisted men. Maj. Harry H. George was commander of the squadron of planes in their flight to the Zone.

### 28 B-17-B's to March Field

First of 28 B-17-B's to arrive at March Field, Riverside, Cal., a Boeing Flying Fortress was based there recently following a flight from Seattle commanded by Capt. Hilbert M. Wittkop. This contingent of four-engine planes, to become part of the 19th bombardment group under Col. Harvey Burwell, Air Corps safety technician, will augment the first wing's bomber strength, which at present consists solely of B-18's and B-18-A's. These latter, the high command at March Field has believed, while efficient and highly serviceable, present too limited a range for all the maneuvers necessary in defense of the first wing's huge territory—border-to-border throughout the entire western U. S.

### Rearwin Aircraft & Engines Inc.

Kansas City, Kan.—Company has received another order for its 90-hp. Ken-Royce engines from A. B. Gotaverken, Gothenburg, Sweden, and delivery will be made soon, it was said.

Several orders for Cloudsters were made during the National Air Races at Cleveland.

Employment rolls have been increased about 50% in recent weeks.

### Stinson Aircraft Div.

Wayne, Mich.—Three 105's were accepted for delivery by the CAA on Sept. 18. W. A. Mara, v. p.-sales, announced recently. One of the planes will be used by the Air Safety Board and the others will go to the general inspection section.

Peak delivery of 105's came on Sept. 15-16, when 14 were picked up at the factory by distributors, dealers and private flyers. Among recent 105 buyers is former Gov. George H. Earle of Pennsylvania.

The General Aeronautics Corp. of Detroit and Wayne County Airport, is planning to exhibit a 105 at the Detroit Automobile Show, Oct. 21-28.

## Construction Details of Cyclone 14 Released; Engine Available for Export

Release of a detailed description of the construction and background of the double-row Cyclone 14, manufactured by Wright Aeronautical Corp., Paterson, N. J., was made possible for the first time on Sept. 27 when the powerplant was made available for export sale. Announcement concerning the 1,500-hp. engine was made by Myron B. Gordon, vice-president and general manager of the manufacturing concern.

Introduced in 1938, the engine was 30% more powerful than any available at that time, and was put to immediate commercial use, being fitted in Pan American Airways' 41-ton Boeing 314 Clippers. However, the Cyclone was under governmental restriction and was adopted by the Navy for its new Martin patrol boats and by the Army for various types of attack and bombardment craft. Little was known about the engine except that it was a development of the single-row Cyclone.

Rated at 1,500 hp., power can be raised to 1,600 hp. for take-off, with 1,350 hp. available for normal operation, when military and commercial development demands these powers.

The Cyclone 14 is a staggered radial of 14 cylinders, having a total displacement of 2,603 cu. in. Cylinder bore is the standard 6.125 in. of the single-row Cyclone. Stroke is shorter, being 6.312 instead of 6.875 in. Diameter of 55 in. is the same as that of previous Cyclones, and the additional row of cylinders makes the plant little more than one foot longer.

Cylinders follow the usual Cyclone construction of cast aluminum alloy heads shrunk on forged nitralloy steel barrels. Crankcase is generally similar to that of previous Cyclones except that the main or power section consists of three aluminum forgings, divided at planes through the center of the cylinder locations of each bank of cylinders. They are bolted together between the cylinders of each bank.

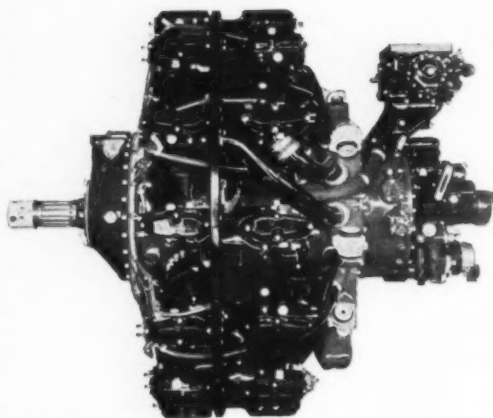
No. 2 section, which provides for vertical mounting of a constant speed propeller governor, is machined from an aluminum alloy casting. This section holds the propeller thrust ball bearing and houses the propeller speed reduction gears which are furnished optionally to give 16:9 or 3:2 reduction ratios.

The aluminum alloy mounting section, or supercharger front housing, has been enlarged to provide outlets for 14 pipes to the cylinder intake ports. Engineers designed the engine's crankshaft in three pieces to permit the use of single-piece master connecting rods.

Propeller vibration studies conducted with the double-row Cyclone resulted in the incorporation of a seventh order damper on the front crankcheek and a three and one-half order damper on the rear cheek, a combination which has materially reduced propeller shank stresses. The 50 spline (SAE) propeller shaft is machined from an alloy steel forging and is hollow throughout its length.

The one-piece master rods, machined from alloy steel forgings, differ in appearance from single-row rods mainly in that they each accommodate only six articulated rods instead of eight. The shank is an H section, the flanges of which are a continuation of the flanges at the channel at the crankpin end.

Pistons are full trunk type aluminum alloy forgings, the heads strengthened and cooled internally by ribbing. Five ring grooves are used, four above the piston pin and one in the skirt. A single compression ring fits in each of the three grooves nearest the top of



the piston, with two vented oil control rings in the fourth groove and an oil scraper ring in the bottom groove. The oil ring grooves are drilled to permit drainage into the piston interior.

The two valve-operating cams, each of which is supported on journals mounted on the front and rear of the main crankcase, are of alloy steel forgings having two sets of cam lobes each which are given a micro finish. Both cams rotate at one-sixth crankshaft speed in a counter-crankshaft direction.

Lubrication system is the full pressure type to all surfaces except the cylinder wells and piston pins, which are lubricated by oil sprayed from the main crankpin bearings. Non-icing carburetion is provided for the Cyclone 14 by a large Chandler-Groves type carburetor. Ignition is supplied by two Scintilla magnetos through Breeze radio shielded ignition cables.

The Cyclone 14 has been selected as the powerplant for the Curtiss-Wright model 20 commercial transport.

### Aircraft Accessories Corp.

Glendale, Cal.—Company now occupies its new building in Glendale at 5210 San Fernando Road, where it has executive offices, an engineering dept., experimental laboratory and assembly facilities.

Orders have been received from Consolidated, Vought-Sikorsky, Vultee and Naval Aircraft Factory at Philadelphia for hydraulic systems for installation on Air Corps and Naval aircraft in current production.

Siebert division in Kansas City has received an order for de-icer spinners from Curtiss Propeller Div.

### Cessna Aircraft Co.

Wichita, Kan.—Warner Aircraft Corp., manufacturers of Warner engines which are used exclusively in Cessna Air-masters, recently placed an order for a new C-165 which will be flown by L. A. Faunce, v. p.-sales.

Wien Alaska Airlines has ordered a new C-165 Airmaster which was to be flown to Seattle and shipped to Alaska by boat.

### Consolidated Aircraft Corp.

San Diego, Cal.—Company's backlog is above \$17,000,000 following Air Corps order on Aug. 10 for an estimated 40 four-engine type 24 landplane bombers, costing approximately \$8,485,000.

### Kinners Motors Inc.

Glendale, Cal.—Company has sold 50 160-hp. engines to Fleet Aircraft Corp. Ltd. of Canada for approximately \$83,000. Letter of credit accompanying order assured Kinners payment would be made even though delivery is prohibited by the neutrality embargo. It was said the engines would be stored "until such time as the Canadian firm legally can take delivery." Order is in addition to 36 similar engines sold to Fleet in August.

## Air Corps Moving Two Sections from Dayton to Washington

The office of the chief of the materiel division, Air Corps, and the industrial planning section of the division are being moved from Wright Field, Dayton, O., to the office of the chief of the Air Corps in Washington, D. C., the War Dept. announced on Sept. 18. The movement will involve transfer of Brig. Gen. George H. Brett, chief of the materiel division, 17 other Air Corps officers and 59 civilian employees to Washington. No definite date was announced for the transfer.

"The centralization of these activities has been decided upon in order to permit the office of the chief of the Air Corps to simplify procurement problems and to complete action on all matters pertaining to the procurement of airplane and aircraft equipment during the present expansion program with greater speed than has heretofore been possible," the statement said.

## Air Corps Organizes 'Human Laboratory' at Maxwell Field

The Air Corps is organizing at Maxwell Field's tactical school, Montgomery, Ala., a composite group to be employed as a laboratory for new tactical theories, planes and equipment and as a demonstration unit in connection with the training of Air Corps officers and officers of other arms and services at various arm service schools.

The 23d composite group will be composed of group headquarters and headquarters squadron, five officers and 60 enlisted men; the 24th attack bombardment squadron, 18 officers, 181 enlisted men; the 54th bombardment (medium) squadron, 31 officers, 220 men, and the 1st pursuit squadron, 27 officers, 153 men, or a total of 81 officers and 614 enlisted men.

"The new group will be furnished with the latest types of equipment, will be kept at full authorized strength... fitted to test new ideas and aerial tactics," the War Dept. announcement said.

### Vultee Aircraft Div.

Downey, Cal.—Engineers and architects are completing details for factory additions, including a new engineering building, contracts for which will be let soon. Plans call for increase in floor space of from 124,721 to 249,715 sq. ft. Total appropriation is \$192,000.

Powered by the 1,600-hp. (above 20,000 ft.) Pratt & Whitney 18-cylinder twin-row radial Double Wasp, Vultee's secret new interceptor-pursuit has been undergoing tests with Vance Breeze at the controls. Instead of using the conventional data pad upon which to write instrument recordings, a dictaphone has been mounted just back of the pilot's seat and Breeze makes his recordings verbally.

Chief Test Engineer Harold Cheney has developed a testing unit which is mounted in the plane behind Breeze and records, by means of a motion picture camera, the functioning of the plane and its engine on each flight. Camera is controlled by the pilot by means of the sun trigger which is mounted on the control stick.

Performance of the ship is expected to show a top speed of more than 400 mph., since the export version of this craft offers about 350 mph. Great secrecy has been displayed regarding the machine because of the Navy-developed engine installation despite the fact that this selfsame powerplant is on display at the NY World's Fair.

Vought-Sikorsky Aircraft Div. Stratford, Conn.—Recently awarded a \$1,998,420 plane contract by the Navy, the company has prepared to augment its factory staff of 1,100 employees with an additional 800.



## SUMMARY OF U. S. AIR TRANSPORT OPERATIONS FOR JULY

(Compiled and Mileage Costs Computed from CAA Reports \*)

	Rev. Pass.	Rev. Pass. Miles	Avail. Seat Miles	Load Factor	Pass. Revenues	Exp. & Frt. Lb.-Miles	Mail Lb.-Miles	Mail Revenue	Operating Revenues	Operating Expenses	Cost per Mile Flown	Net Income (Before Income Taxes)	Total Assets
American	\$1,685	19,328,762	29,485,605	65.55%	\$1,005,986.12	99,131,109	301,697,744	\$313,547.39	\$1,369,722.08	\$1,120,492.95	\$62	\$209,229.13	\$7,312,948.18
Boston-Maine	2,169	331,441	686,676	48.27%	18,051.32	553,763	1,476,563	21,650.67	41,087.57	36,669.89	.48	4,417.68	369,940.90
Branch	5,503	1,771,159	2,035,364	58.25%	80,062.81	10,499,190	39,367,719	65,183.51	149,850.50	144,392.02	.43	5,458.48	716,148.96
C & S	2,308	796,754	1,657,730	48.06%	35,969.48	4,214,333	16,039,138	35,561.60	74,425.77	65,316.98	.38	9,238.77	590,062.19
Continental	877	268,359	687,712	43.30%	12,501.63	1,201,637	5,067,977	33,137.99	45,553.63	37,847.28	.35	7,706.35	339,950.48
Delta	2,364	693,363	1,991,680	49.81%	30,860.07	1,964,326	7,424,684	74,269.10	169,917.66	158,917.66	.36	10,999.99	273,269.48
EAL	20,717	7,552,443	16,438,536	45.94%	405,027.10	44,764,373	151,015,756	140,199.28	869,267.19	831,429.53	.58	36,636.93	4,546,281.91
Inland	1,117	277,701	926,330	29.98%	11,250.09	1,222,987	3,685,779	3,798.00	41,532.30	36,180.53	.99	5,209.94	534,340.85
Inter-Island	2,017	322,228	623,326	46.20%	36,471.25	1,187,601	4,485,655	42,490.46	63,479.22	51,103.68	.44	11,948.15	487,853.98
Mid-Continent	1,705	456,664	1,033,076	44.20%	20,017.82	2,047,750	7,424,684	74,269.10	169,917.66	158,917.66	.36	10,999.99	273,269.48
National	643	139,978	582,350	24.03%	6,649.24	304,750	1,187,601	4,485,655	42,490.46	36,180.53	.99	5,209.94	534,340.85
Northwest	10,940	4,344,470	7,330,769	57.69%	163,488.21	15,185,238	97,679,184	152,300.31	323,822.36	274,779.52	.57	55,067.63	2,087,778.77
PCA	11,492	2,000,578	3,147,870	63.55%	117,800.80	8,602,370	17,669,042	46,218.00	168,901.55	153,882.96	.47	15,018.59	1,027,988.96
TWA	19,519	9,958,661	19,072,344	52.25%	115,389.86	94,342,078	236,548,260	202,533.95	744,904.88	704,246.21	.61	37,044.27	6,755,692.14
United	31,955	16,571,412	24,854,343	66.67%	837,862.10	137,408,438	457,444,072	312,867.88	1,194,154.67	1,016,163.34	.60	179,007.88	13,172,034.05
WAE	3,675	1,393,087	2,514,644	55.40%	81,260.20	14,742,764	40,670,082	91,859.11c	180,446.04	166,889.70	.50	13,556.48	892,123.90

\* All monthly reports to the CAA are subject to revision and year-end adjustment.

b Load factor is for passengers.

c Includes additional mail pay resulting from recent rate order decision of CAA and covers period January 1, 1939 through July, 1939, which amounts to: AM13—\$5,188.72 and AM19—\$19,626.42.

Also includes \$1,024.95 additional mail pay for AM19 resulting from ICC's order of June 12, 1939, covering period January 1, 1939 through June, 1939.

d Total operating expenses divided by total plane miles; computed to the nearest half-cent.

## CARRIER OPERATIONS STATISTICS FOR 1938

Domestic	Months operated	Revenue miles flown	Revenue passengers carried	Revenue passenger miles flown	Express carried (pounds)	Express lb.-miles flown	Mail carried (pounds)	Mail pound-miles flown	Mail payments
Airline Feeder	12	31,636	164	19,761	2,143,931	1,302,499.3	3,170,487.3	53,317,765.97	197,619.96
American	12	19,328,762	358,295	140,870,235	34,030	4,802,756	14,132,993	423,432,208	692,471.91
Boston-Maine	12	672,316	14,784	2,254,208	255,590	120,237,333	423,432,208	398,765.89	398,765.89
Branch	12	2,692,266	38,943	13,504,858	83,313	42,157,946	134,941,092	1,248,758.93	1,248,758.93
C & S	12	1,442,016	221	19,040	11,301	2,789,841	22,359,722	124,499,889	379,280.52
Continental	12	25,966	221	19,040	1,237	90,637	423,432,208	1,512,935.37	1,512,935.37
Delta	12	616,329	3,766	13,200,854	11,301	2,789,841	22,359,722	124,499,889	379,280.52
Eastern	12	1,397,705	21,107	6,942,183	46,780	17,339,132	14,132,993	423,432,208	692,471.91
Inland	12	8,266,162	165,101	71,326,469	837,072	603,788,132	1,439,299,778	1,512,935.37	1,512,935.37
Inter-Island	12	804,814	4,491	1,142,661	13,824	3,761,952	24,160,463	198,796.23	198,796.23
Marquette	9	157,881	943	220,098	43,680	40,364	63,411,857	337,983.58	337,983.58
Mayflower	24	19,172	446	43,680	234	40,364	63,411,857	337,983.58	337,983.58
Mid-Continent	12	1,095,313	13,578	3,247,460	51,226	11,321,708	12,871,038	102,922.05	102,922.05
National	12	410,813	4,670	726,316	13,745	1,824,810	1,095,240,092	1,248,758.93	1,248,758.93
Northwest	12	8,068,066	50,593	21,853,250	283,462	142,710,897	1,095,240,092	1,248,758.93	1,248,758.93
PCA	12	2,916,722	85,484	15,678,677	362,509	68,235,902	196,609,392	475,889.75	475,889.75
TWA	12	9,808,268	129,248	72,094,783	674,999	567,875,988	2,336,469,903	1,772,725.01	1,772,725.01
United	12	16,531,286	215,456	106,790,408	2,078,366	1,809,391,085	4,406,070,465	3,474,642.34	3,474,642.34
WAE	12	2,308,578	28,738	10,551,761	312,211	144,685,825	464,224,593	675,396.20	675,396.20
Wilmington-Catalina	12	123,350	2,688	680,652	132,552	3,761,952	24,160,463	198,796.23	198,796.23
Total Domestic Routes	12	69,668,827	1,176,858	476,402,280	7,335,967	4,347,411,761	14,845,710,671	118,041,107.98	118,041,107.98
FOREIGN AND TERRITORIAL									
Canadian Colonial	12	297,608	c6,731	2,016,256	14,398	119,747	55,320,818	646,880.00	646,880.00
Inter-Island	12	850,297	c28,718	4,295,458	119,747	119,747	55,320,818	646,880.00	646,880.00
Marine Airways	12	19,345	335	40,238	3,384	3,384	55,320,818	646,880.00	646,880.00
Pan American	12	6,961,601	142,437	62,447,043	1,816,836	1,816,836	55,320,818	646,880.00	646,880.00
Paraguay	12	1,540,449	14,437	9,037,921	106,268	106,268	55,320,818	646,880.00	646,880.00
Total Foreign and Territorial	12	11,389,300	c192,684	c77,836,916	2,116,633	2,116,633	785,025	78,600,768.99	78,600,768.99
Grand Total	12	81,058,127	1,369,542	554,239,196	9,452,600	9,452,600	15,630,736	126,641,876.97	126,641,876.97

(a) Mail pounds carried for domestic routes not available.

(b) Inter-Island Airways operations included with territorial &amp; foreign. Pound-miles of mail and mail payments have been included with the totals of domestic mail-pound miles flown and mail payments, as this company operates under a domestic mail contract.

(c) Foreign and territorial operations include non-revenue passengers and passenger-miles.

(d) Mail carried or revenue to contractors on individual foreign air mail routes not available.

(e) Not available.

(f) Does not include mail or revenue from mail carried under contract with other governments.

(g) Included in total above.

BELL, SEVERSKY  
SHARE \$6,317,000Air Corps Makes Tentative Awards for  
Single-Engine Pursuits; Curtiss  
a Design Winner

The following companies were announced on Sept. 13 as winners in a design competition for pursuit planes of the single-engine interceptor type submitted and evaluated in connection with competitive bids opened by the Air Corps at Wright Field, Dayton, O.:

Seversky Aircraft Corp., Farmingdale, N. Y.; Bell Aircraft Corp., Buffalo, N. Y.; Curtiss Aeroplane Div., Curtiss-Wright Corp., Buffalo, N. Y.

Simultaneously the tentative award of contracts to Seversky and Bell was announced. An award was made to Seversky "for a number of planes of this type" in an amount totaling approximately \$3,478,000, and to Bell "for a number of planes of this type" totaling approximately \$2,839,000.

## Continental Motors

## Shifts 3 Engineers

James W. Kinnucan has been advanced to chief engineer of the aircraft engine division of Continental Motors Corp.; C. F. Bachle has been appointed assistant chief engineer in charge of research and E. A. Hulbert has been appointed engineer in charge of sleeve valve development, it was revealed Sept. 19 by C. Reese, president.

Kinnucan has been associated with Continental for nine years and for the last several years has been project engineer in charge of high output liquid-cooled engine development.

Bachle has been in charge of research for a number of years.

Hulbert has been project engineer on various diesel and aircraft engine projects and has specialized in sleeve valve engine development.

## Seversky Changes Name

The Seversky Aircraft Corp., Farmingdale, L. I., will become the Republic Aviation Corp. on Oct. 12, it has been made known. W. Wallace Kellett is president of the company. Joseph F. McClane, general manager, has been elected vice-president and a director, and William L. Wilson, former Philadelphia newspaperman, has been named publicity director. Herb Hulsman, former United Air Lines pilot, is the new test pilot. The company has a backlog of \$6,000,000 in orders for the Air Corps and the Swedish government.

## ZMC-2 Flies on Anniversary

The metal-clad airship ZMC-2 made a one-hour flight at Lakehurst, N. J., on Aug. 19 in celebration of her 10th anniversary of delivery to the Navy in 1929. With this flight, the ZMC-2 had flown 2,260 hrs. It is a pressure airship, helium being contained directly in the covering of plates which are about .01 inch thick, riveted together.

## Mfg. Personnel

Robert M. Spangler Jr., graduate of Parks Air College, has been employed by the Glenn L. Martin Co. as inspector.

A recent sales demonstration trip in eastern U. S. was made by H. Eichhammer, sales mgr. of Monocoupe Corp.

H. E. Kraus, Consolidated Aircraft's service representative in Honolulu, was expected back at the plant in San Diego in mid-September.

Stationed at Coco Solo since 1937 as service representative for Consolidated Aircraft, Charles E. Kinney has returned to the plant at San Diego. While at Coco Solo he looked after service requirements of the Navy's PB's. Kinney and Miss Dolores Spencer of Santa Ana, Cal., were married in July.

Carl Squier, v. p. & sales mgr. for Lockheed Aircraft, recently completed a business trip in 13 leading cities in the U. S. and Canada.

Trustee Foreclosing Against  
Arrow Aircraft Property

Lincoln, Neb.—Lester L. Dunn, Lincoln attorney who is trustee for the bondholders of the Arrow Aircraft factory in Havelock, has instituted foreclosure proceedings against the Havelock property which is mortgaged as security for \$200,000 in negotiable bonds issued by Patriot Manufacturing Co. Dunn alleges that none of the promissory bonds, 295 in number, have been paid and that, as holder and owner of the mortgage, he is entitled to collect the debt of \$200,000 plus 10% interest from Jan. 1, 1935. Arrow Aircraft Corp., Arrow Airport Inc., Granville A. Bishop and Harry C. Ohler are named as co-defendants with the Patriot company. Each claims an interest in the mortgaged premises, according to Dunn, who contends that their claims are inferior to and subject to his lien on the premises by virtue of his first mortgage. The bonds were executed Dec. 28, 1929 with the First Trust Co. of Lincoln as trustee. The trust company resigned in 1935 and Dunn was appointed by the stockholders.

## Northrop Aircraft Offering

Northrop Aircraft Inc., has amended registration statement filed with the SEC to offer 530,000 shares and warrants to purchase 130,000 of said shares; 400,000 shares and warrants for purchase of 80,000 shares are to be offered to the public for cash. The remaining 130,000 shares will be reserved for issuance pursuant to warrants, of which, warrants for purchase of 50,000 shares are to be offered. The original statement covered 687,185 shares, and warrants to purchase 133,333 of said shares. Estimated net proceeds will be \$1,976,441, and will be used essentially as follows: \$225,000 for factory building, engineering department and offices; \$252,000 for equipment; \$350,000 as reserve for experimental development; \$1,149,441 for working capital.

Company expects to specialize in small and medium-sized military aircraft, but the models have not been determined. First prototype probably will be completed in about a year. In the meantime, firm hopes to obtain "substantial" sub-contract business from other aircraft manufacturers. "It is also possible that government business may be procured on types already developed and which under certain circumstances are available for open bid by all accredited manufacturers," the SEC is informed.

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## NOTICE TO PILOTS

Radio-Telephone Examinations—New under regulations effective July 1, 1939, now available. All instrument flyers must have this license. Why fail? Text in question answer form. \$2.00 Quiz System, 1435 Flower Street, Glendale, Calif.

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## Fortnightly Financial Review

Current reports showing recent financial changes by companies which have at one time filed registration statements with the Commission represented the only aviation activity at the Securities & Exchange Commission during the past fortnight. For the first time in many months there were no new stock issues registered. Digests of the current reports filed, with summaries of financial statements released by two airlines and a lightplane manufacturer, follow:

**Beech Aircraft Corp.** announces sale of 34,635 shares of \$1-par voting common capital stock in August with aggregate and net cash proceeds of \$103,881.50, which will be used as follows: \$37,500 for note payable to Walter Beech, president; \$37,500 for note payable to J. A. Harris 3rd, and \$28,881.50 to working capital.

Shares were sold as follows: 3333 to C. A. Beech (wife of Walter Beech) at \$2.50; 8333 shares at \$2.50, 8333 shares at \$3.00 and 8334 shares at \$3.50 all to Walter Beech; 5667 shares to R. K. Beech at \$3.00 and \$3.50. Presently outstanding shares (as of Aug. 31) aggregate 337,361.

**Douglas Aircraft Co. Inc.**, furnishes details of sale of 29,320 no par capital shares (including 29,317 shares newly issued and 3 formerly held in Douglas treasury) to Dutch interests at \$63.50 a share. Aggregate gross proceeds of \$1,861,820.00 and aggregate net cash proceeds (after deduction of \$11,384.36

expenses) of \$1,850,435.64 are reported. Of this, \$210,539.25 will be credited to capital surplus.

The group comprises: Nederlandsche Handel-Maatschappij N. V., Amsterdam; Amsterdamsche Bank N. V., Amsterdam; de Twentsche Bank N. V., Amsterdam; Labouchere & Co., N. V., Amsterdam; Warburg & Co., Amsterdam; Helderling & Pierson, The Hague; R. Mees & Zoonen, Rotterdam. Two other firms to whom part of the securities were issued directly by the Douglas Co., and who may have offered securities to the public outside the U. S. were Administratiekantoor "Interland" N. V., Amsterdam, and Frankel, Tuteur & Gardner, London.

**Pan American Airways Corp.** reports that company has extended its option on the services of Juan Trippe, president, from Dec. 31, 1941, to Dec. 31, 1942, and the stock option price to Trippe has been reduced from \$15 to \$12.50 a share. Trippe holds options for 50,000 shares.

**Northwest Airlines Inc.**, reports to the CAA for the fiscal year ended June 30 a deficit of \$108,005.15. Total transportation revenues were \$2,578,128.62, with \$1,550,183.92 in mail revenue. Total operating revenues were \$2,593,691.38. Total operating expenses were \$2,892,894.88. June 30 balance sheet shows assets of \$2,099,116.43 and current liabilities of \$385,063.52. Stockholders of 5% or more of the outstanding stock are: Shreve M. Archer, Minneapolis, 50,000 shares (21.69%); H. H. Irvine, St. Paul, 52,975 shares (22.98%); and R. C. Lilly, St. Paul, 43,380 shares (18.82%).

**Chicago & Southern Air Lines' report** to CAA (also published in brochure) shows net income for year ended June 30 of \$69,595.76, with operating revenues of \$791,237.17 (\$409,156.26 mail; \$359,030.88 passenger & excess baggage; \$16,556.40 express; other \$6,493.63). Operating expenses were \$696,571.62. Net profit from operations:

\$94,665.55. June 30 balance sheet shows assets of \$566,476.10; current assets of \$191,700.53 (\$79,151.29 cash); current liabilities of \$86,386.45.

Directors of the company are: Carleton Putnam, president; D. D. Walker, vice president-sales; Bruce E. Braun, vice president-operations; John W. Newey and John R. Longmire, Amos Culbert, vice president, secretary-treasurer, is not a director.

**Taylorcraft Aviation Corp.** net income of \$20,284 is announced for the 6 months ended June 30, comparing with \$6,799 in the 1938 period. Sales were up about 20% over 1938 half.

## SEC Turns Down Pleas For Secrecy

According to unofficial sources, the Securities & Exchange Commission recently has received an increasing number of applications from aviation companies for confidential treatment of certain phases of registration statements in connection with new stock issues, balance sheets, profit & loss statements and stock holdings. Most of these have been rejected. The usual procedure on the part of the SEC is to withhold the data as requested until an investigation of the case can be made. If the application for secrecy is turned down, the Commission then either allows withdrawal of the exhibit or makes it public, depending upon the nature of the case. However, general feeling of the commissioners is that confidential filings defeat the purpose of the legislation which created the commission. Exceptions are made for concerns working on products for national defense, if official statements from the Army or Navy substantiate claims of the manufacturer.

### Ford Trimotor Goes South

As part of a four plane order sold to the Costa Rican government-subsidized airline, Aerovias Nacionales, by Eddie Erickson, West Coast Beechcraft distributor, a Ford trimotor and a Travelair left Metropolitan Airport, Van Nuys, Cal., recently headed for Central American service. Pilots were Eddie Delarm (Ford) and Ramon Macaya (Travelair).

## STOCK COMMENTS

By Philip P. Friedlander

Aviation stocks have fallen up to this point to attract a considerable public following. The failure of this group to attract any heroic proportions of transactions in a so-called rip-snorting bull market has caused the student of security values to go more deeply into the underlying causes. Does it mean that this group is anticipating no change in the embargo regulations? Does it mean that, despite capacity operations aviation companies will fail to show an appreciable increase in their net income?

The contention by many is that aviation stocks at present levels are mirroring what has already taken place in the industry and are even reflecting more optimistic predictions of what the future holds in store.

No one really knows the answer. Like other problems all factors must be analyzed and conclusions drawn from the many and varied premises.

Even in the halls of Congress today there is no one who can give the answer of how our legislative body will change our neutrality law. How then can the market establish anticipatory values?

Much possibly could be explained if further study is made of the technical action of this particular group. Innumerable times the averages have entered close to the 41 area only to find a big supply of stock for sale. Remember this is the area that represents an all time high. Advocates of the theory that aviation stocks are "selling plenty high enough," and there are quite a few traders who take this position, find this spot a good place to liquidate holdings. This gives a temporary top. Prices must sway back and forth in a path until new incentives are created. The changing of the embargo on aviation shipments might be just the spark needed to start the fireworks off. But remember that the weeks ahead will be filled with both despair and promise in this regard.

In 1938 when the move occurred in aviation stocks, it came very quickly and seemingly from nowhere. Will history repeat itself, and the averages duplicate this type of performance? Very often the neglected and forgotten group suddenly finds new friends and when once the move starts patient holders are amply rewarded.

### 3 Amphibians Sold

Gillies Aviation Corp., Hicksville, N. Y., has reported sale of Grumman G-21A amphibians for private use to James P. Donahue of NY, Robert Lehman of NY and Col. Robert R. McCormick of Chicago.

## GOVERNMENT CONTRACTS

(Awards of \$10,000 and Over)

Release Date Shown

### AIRCRAFT

North American Aviation Inc., Inglewood, Cal., 9/19, planes & spare parts, \$676,400 (Navy).  
Vought-Sikorsky Aircraft Div., United Aircraft Corp., East Hartford, Conn., 9/19, airplanes, spares, \$1,998,420 (Navy).  
Seversky Aircraft Corp., Farmingdale, N. Y., 9/13, single-engine interceptor pursuit planes, \$3,478,000 (War).  
Bell Aircraft Corp., Buffalo, N. Y., 9/13, single-engine interceptor pursuit planes, \$2,839,000 (War).  
\* See story on page 29.

### ENGINES, PARTS, ACCESSORIES

Pratt & Whitney Div., United Aircraft Corp., East Hartford, Conn., 9/13, engines, \$56,250 (War).  
Pioneer Instrument Co., Bendix, N. J., 9/13, indicator assy. & Venturi tubes, \$506,710.70 (War).  
Kollsman Instrument Co., Elmhurst, N. Y., 9/13, altimeter assy., \$494,940.30 (War).  
Wright Aeronautical Corp., Paterson, N. J., 9/13, spare parts for engines, \$50,824.60 (War).  
Pratt & Whitney Aircraft Div., United Aircraft Corp., East Hartford, Conn., 9/13, engines & parts, \$929,074.77 (Navy).  
Kollsman Instrument Co. Inc., Elmhurst, N. Y., 9/19, aircraft compasses, \$20,475 (Navy).  
Pioneer Instrument Co., Bendix, N. J., 9/19, aircraft compasses, \$13,387.50 (Navy).  
Sperry Gyroscope Co. Inc., Brooklyn, N. Y., 9/14, horizon & directional gyros, \$201,600 (Navy).  
Kollsman Instrument Co. Inc., Elmhurst, N. Y., 9/14, aircraft indicators, spares, \$45,937.50 (Navy).  
Air Cruisers Inc., Clifton, N. J., 9/16, cylinder assy., \$34,950 (War).  
Eclipse Aviation Div., Bendix Aviation Corp., Bendix, N. J., 9/16, generator assy., \$47,327.50 (War).  
Pratt & Whitney Div., Niles-Bemet-Pond Co., Hartford, Conn., 9/16, gauges, \$62,820.21 (War).  
Vought-Sikorsky Aircraft Div., United Aircraft Corp., Stratford, Conn., 9/13, landing gear lock control, \$48,578.22 (Navy).  
B. G. Corp., New York, N. Y., 9/18, spark plugs, \$37,250 (War).  
Triumph Explosives Inc., Elkton, Md., 9/19, starter cartridges, \$23,040 (War).

### MISCELLANEOUS

Clifton C. Newman, San Francisco, Cal., 9/13, radio beacon range bldg. and radio transmitter bldg., Hamilton Field, Cal., \$22,825 (War).  
Robert McCarthy, San Francisco, Cal., 9/13, temporary buildings, Hamilton Field, Cal., \$87,919 (War).  
Lawrence Construction Co., Sacramento, Cal., 9/13, sentry houses, entrance gates and fences, Sacramento Air Depot, Cal., \$13,166 (War).  
Reinke & Schomann, Milwaukee, Wis., 9/13, heating systems for temporary buildings, Scott Field, Ill., \$13,638 (War).  
Fairchild Aerial Camera Corp., Woodside, N. Y., 9/13, radio equipment, \$325,147.28 (War).  
RCA Manufacturing Co. Inc., Camden, N. J., radio receivers with associated equipment, \$425,009.57 (War).  
Olaf Lagred, Honolulu, T. H., 9/13, for re-erection of seaplane hangar at Naval Fleet Air Base, Pearl Harbor, T. H., \$89,700 (Navy).  
Powerlite Switchboard Co., Cleveland, O., 9/16, cabinets, \$12,800 (CAA).  
Carlsile & Finch Co., Cincinnati, O., 9/16, light units, \$24,043.50 (CAA).  
Crouse-Hinds Co., Syracuse, N. Y., 9/16, beacons, \$88,500 (CAA).  
General Electric Supply Corp., Washington, D. C., 9/16, radio receivers, \$17,550 (CAA).  
K. E. Parker Co., San Francisco, Cal., 9/13, for storehouses & powerplant bldg. at Naval Air Station, Alameda, Cal., \$845,221 (Navy).  
Philadelphia Air Transport Co., Norristown, Pa., 9/18, dryer & developer assy., \$17,766 (War).  
Standard Oil Co. of N. J., New York, N. Y., 9/16, aircraft engine oil, \$11,900 (War).  
Shell Oil Co. Inc., St. Louis, Mo., 9/16, aircraft engine oil, \$20,472 (War).  
Humble Oil & Refining Co., Houston, Tex., 9/16, aircraft engine oil, \$23,774 (War).  
Pure Oil Co., Chicago, Ill., 9/16, aircraft engine oil, \$13,659.90 (War).

## NEW YORK CURB EXCHANGE

Week Ended Sept. 16				Week Ended Sept. 23			
	High	Low	Net Change	Sales	High	Low	Net Change
Aero Supply B .....	4 1/2	4 1/2	+ 1/8	4,100	4 1/2	3 3/4	+ 1/8
Air Associates .....	8 1/2	8	+ 1/8	400	8 1/2	8 1/2	+ 1/8
Air Investors cv pf ..	17	17	+ 1	100	.....	.....	.....
Air Investors .....	2 3/4	2	+ 1/8	3,100	2 1/2	2	.....
Air Investors war ....	3 1/2	3	+ 1/8	2,400	3 1/2	3 1/2	.....
Aviation & Transp. ....	3 1/2	2 1/2	+ 1/8	34,800	3 1/2	2 3/4	+ 1/8
Beech Aircraft .....	7 1/2	7	+ 1/8	13,600	7 1/2	7	+ 1/8
Bell Aircraft .....	27 3/4	22 3/4	+ 2 1/2	19,800	26 3/4	22 3/4	+ 2 1/2
Bellanca Aircraft .....	9	7 3/4	+ 1/8	4,700	8 3/4	7 1/2	+ 1/8
Breeze Corps. ....	7 1/2	6	+ 3/8	9,700	7	5 3/4	+ 1/8
Brewster Aero .....	9 1/2	8	+ 1/8	23,900	8 3/4	7 3/4	+ 1/8
Canadian Colonial ....	7	6 1/4	+ 1/8	1,700	6 3/4	5 3/4	+ 1/8
Fairchild Aviation ....	12 3/4	11 1/2	+ 1/2	9,000	12	11 1/2	+ 1/2
Grumman Aircraft Eng. ..	19 1/4	16 1/4	+ 3/8	15,100	18	15 1/4	+ 3/8
Irving Air Chute .....	20 1/2	19	+ 1 1/2	8,400	21 1/2	19 3/4	+ 3/8
Lockheed Aircraft ....	31	28	+ 3/8	49,900	29 1/2	26	+ 3/8
Penn-Central Airlines ..	8 3/4	8 1/4	+ 1/8	900	8 3/4	8 1/4	+ 1/8
Roosevelt Field .....	2 1/2	1 3/4	+ 3/8	500	2	2	.....
Seversky Aircraft .....	5 1/2	3 3/4	+ 1 3/4	119,500	5 1/4	4 5/8	+ 1/8
Waco Aircraft .....	6 3/4	5 3/4	+ 7/8	2,300	.....	.....	.....
Western Air Express ..	3 3/8	3 1/8	+ 1/4	500	.....	.....	.....

## NEW YORK STOCK EXCHANGE

Week Ended Sept. 16				Week Ended Sept. 23			
	High	Low	Net Change	Sales	High	Low	Net Change
American Airlines ....	33 1/2	28 3/4	+ 1 1/2	9,500	32 1/2	30	+ 3/4
Aviation Corp. ....	6 3/4	5 3/4	+ 1/8	168,600	6 3/4	5 1/2	+ 1/8
Bendix Aviation .....	31 3/4	29	+ 1 1/2	110,100	30 3/4	28 1/4	+ 3/4
Boeing Airplane .....	28 1/2	25 1/2	+ 1 1/2	44,500	29	24 1/2	+ 1 1/4
Consolidated Aircraft ..	25 1/2	23 1/2	+ 1/2	30,000	28 1/2	22 1/4	+ 3 1/2
Continental Motors ....	3 1/4	2 3/4	+ 3/8	51,100	3 1/4	2 3/4	+ 3/8
Curtiss-Wright .....	7 3/4	6 1/4	+ 3/4	288,600	7 3/4	6 3/4	+ 3/8
Curtiss-Wright A .....	27 1/2	26 1/4	+ 1	34,900	27 1/2	26	+ 1/8
Douglas Aircraft .....	79 1/4	72 3/4	+ 2	35,200	79 3/4	69	+ 1 3/4
Eastern Air Lines .....	18 1/2	16 1/2	+ 1	10,200	18 1/2	17	.....
Ex-Cell-O .....	25 1/2	21 3/4	+ 3/8	12,100	24 3/4	21 1/2	+ 1
Glenn L. Martin .....	39 3/4	36	+ 2 3/4	77,000	39 3/4	35	+ 2 3/4
Natl. Aviation Corp. ....	14	12	+ 1 3/4	22,000	13 1/2	12	.....
N. American Aviation ..	21 1/2	19 3/4	+ 1/8	165,600	21 3/4	18 3/4	+ 3/8
Pan American Airways ..	16 1/2	14	+ 1/8	15,900	16 1/2	15 1/2	+ 1/8
Sperry Corp. ....	51 3/4	48 1/2	+ 1/4	53,200	51	45 1/2	+ 1/2
Thompson Products ..	29 1/2	27 1/2	+ 1 1/4	12,200	28 1/2	26 1/4	.....
TWA .....	10	9	+ 1/4	7,300	10 3/4	9 1/4	.....
United Aircraft .....	46	42	+ 1/4	66,300	45 1/2	40 3/4	+ 1 1/2
United Air Lines .....	11 1/4	10	+ 1/8	31,500	11 1/4	10	+ 1/4
Wright Aeronautical ....	116	107	+ 2 1/2	480	110	104 1/4	+ 2 1/2

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**GIANT GULL:** Stretching 118 feet from tip to tip, the wings of this new Navy Patrol plane closely resemble those of the sea gull.

# XPBM-1

MARTIN XPBM-1 PATROL BOMBER



**BUOYANT BULK:** Poised on the Martin launching ramp near Middle River, Md., the graceful, sweeping lines of the XPBM-1 belie its weight of 18½ tons.



**BROAD SCOPE** of action is an important characteristic of this ship. Living accommodations for its crew make possible sustained operations away from a fixed base.



## For The Navy!

TO EXPAND the horizons of our high seas fleets . . . to extend the long arm of our National defense . . . to serve as a swift and potent guardian of our far-flung coast lines . . . this new Martin-built Patrol Bomber has been designed for the Navy. ★ ★ ★ As the first airplane for which a small-scale, man-carrying model was ever built and flown to predetermine the performance of a full-sized ship, this latest Martin achievement—the "162"—writes a new chapter into the annals of aeronautical science!

THE GLENN L. MARTIN COMPANY, BALTIMORE, MARYLAND

Builders of Dependable



Aircraft Since 1909

TRADE

MARK

*DAVID and GOLIATH: Built before construction of the big ship was even begun, the miniature model was actually flown to ascertain, in advance, the water-maneuvering, take-off and landing characteristics of the full-sized ship. Upon completion, the big plane duplicated identically every characteristic demonstrated by the flying-model prototype!*

# MARTIN

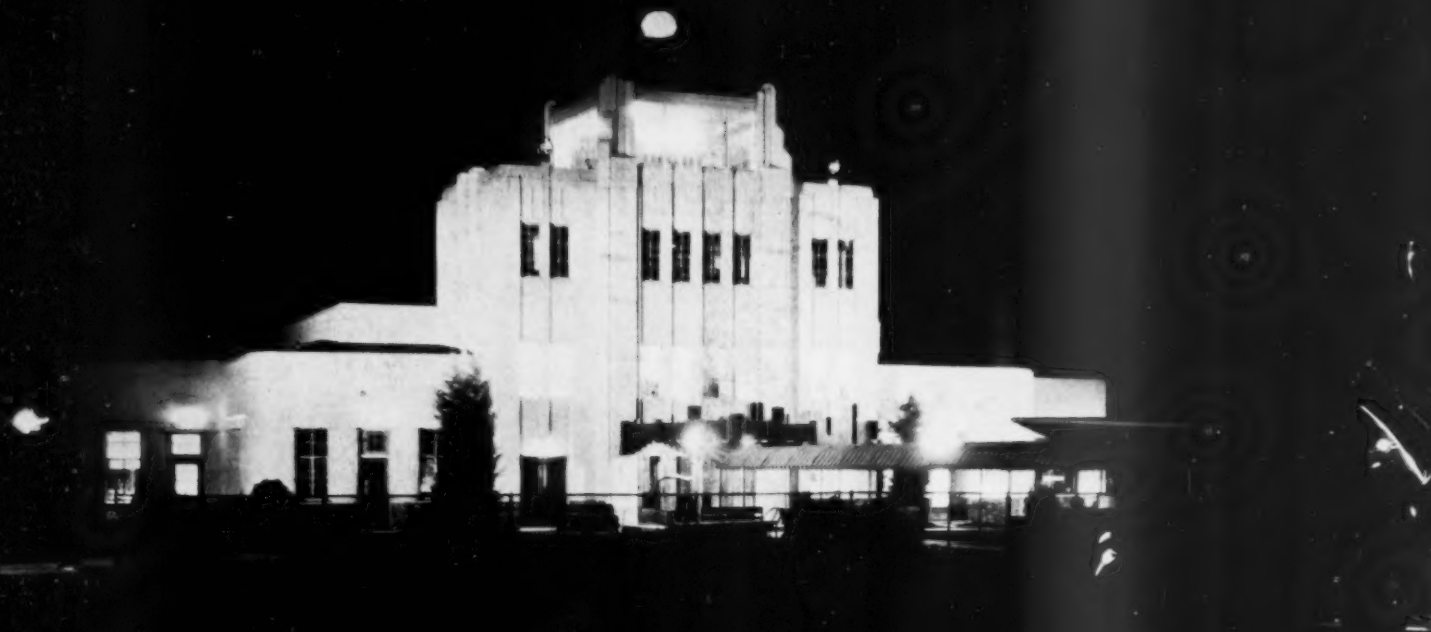


*In Air Transport...*

*It's—*

**AMERICAN AVIATION**

**8.5 TO 1**



★ For the 12 months ending August 31, 1939, AMERICAN AVIATION carried 85% of all airline advertising appearing in aviation magazines. This alone tells the story of dominance in the air transport field.



AMERICAN AVIATION	85 %
Magazine B	10 %
Magazine C	3 %
Magazine D	2 %
All others negligible	

***There is only ONE direct advertising medium  
for the air transport industry***

★ ★ ★

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